

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2222.—Vol. XLVIII.

LONDON, SATURDAY, MARCH 23. 1878.

[WITH SUPPLEMENT.] {PRICE SIXPENCE. PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER.
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds, (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

BUSINESS in COLLIERIES and IRON Shares, and in the principal WAGON and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.

BUSINESS in all the principal COTTON SPINNING Shares.

Mr. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the CHIEF TOWNS of the UNITED KINGDOM, is prepared to deal in the various LOCAL Stocks and Shares at close market prices.

ACCOUNTS OPENED FOR THE FORTNIGHTLY SETTLEMENT.

A Daily Price List, issued at 5 P.M., giving latest Quotations up to close of Market. Also, on the 1st of every month a List of all Securities currently dealt in upon the Mining and Stock Exchanges, with latest prices, current dividends, rate of interest yielded at market prices, &c., and every Friday a general List containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part—
100 Aberdaunt, 50 Holmshush, offer wtd. 25 Port Phillip, 11s.
25 Chapel House, 2s. 20 Hultafall, 10s. 20 Rookhope, 19s.
50 Chontales, 12s. 6d. 50 I. X. L., 2s. 9d. 10 Richmond, 210.
50 Combmartin, 3s. 9d. 50 Javali, 7s. 10 Roman Grav., 283s.
50 Condes de Chili, off. w. 25 Leadhills, 24. 30 St. Harmon.
50 Derwent, 25s. 25 Llanrwst, 23s. 100 So. Rom. Grav., 2s.
20 Devon Cons., 23. 30 Llan Gan, 23. 25 Tankerville, 23s.
20 East Van, 25. 10 Minera, 21s. 20 Van Consols, 10s.
50 Exchequer, 3s. 20 N. Quebrada, 9s. 50 W. Tankerville, 14s.
25 Flagstaff, 15s. 20 N. Zea. Kapan, 13s. 9d. 25 ditto Preference, 25s.
20 Glyn, 10s. 6d. 50 Pandora, 4s. 20 W. Chiverton, 21s.
20 Glenroy, 17s. 6d. 50 Penruthal, 5s. 3d. 20 W. Wye Valley, 23s.
10 G. Lacey, 22s. 100 Pestarena, 4s. 9d. 25 Wye Valley, 22.
25 Halcomb Back, 23s. 60 Parys Moun., 10s.

* * SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

D'ERESBY MOUNTAIN AND D'ERESBY CONSOLS.
SPECIAL BUSINESS in these SHARES.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

FOREIGN BONDS—ARGENTINE—EGYPTIAN—RUSSIAN,
TURKISH, SPANISH, PERU, &c.
SPECIAL BUSINESS in the above, and Fortnightly Accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

RAILWAYS—HOME AND FOREIGN.
SPECIAL BUSINESS in the above, and Fortnightly Accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MISCELLANEOUS AND TRAMWAY SHARES.
SPECIAL BUSINESS in—

MISCELLANEOUS.	CHEMICAL.	TRAMWAYS.
Alhambra Palace.	Lanes.	Argentine.
Fore-street Warehouse.	Langdale.	Bristol.
Halcomb Back.	Newcastle.	Edinburgh.
Positive Assurance.	Telegraphs.	Glasgow.
AQUARIUM.	Direct.	North Metropolitan.
Brighton.	Cliffe.	Tramways Union.
Royal (Westminster).	Telegraph Construction.	
Yarmouth.	W. India and Panama.	

BUSINESS TRANSACTIONS in all MISCELLANEOUS SHARES (of whatever description) having LONDON or COUNTRY MARKET VALUES.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.
Bankers: City Bank, London; South Cornwall Bank, St. Austell.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER.
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in MINING and COLLIERIES Shares of every description. English and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Miscellaneous Shares, and all Securities dealt in on the London Stock Exchange, for INVESTMENT or SPECULATION.

Purchases and Sales negotiated in Unmarketable Stocks and Shares. Speculative Accounts opened for the Fortnightly Settlement. References given and required when necessary.

A Stock and Share List forwarded free on application.

Mr. BUMPUS has SPECIAL BUSINESS in the undermentioned—
20 Argentine, 50 Gunnislake (Clitters), 25 Pandora.
25 Ashton, 16s. 6d. 23s. 6d. 50 Port Phillip, 12s.
40 Birdseye Creek, 15s. 15 Grogwinion, 23 13s. 6d. 35 Rookhope, 18s. 9d.
50 Blue Tent, 22 8s. 9d. 50 Glenroy, 17s. 20 Richmond, 210s. 9d.
20 Chontales, 12s. 50 Hultafall, 10s. 15 Roman Grav., 28 6s. 3
30 Condes de Chili, 6s. 9d. 10 Javali, 7s. 10 South Condurrow.
25 Chicago, 50 Kapanga, 14s. 6d. 15 Tankerville, 23s.
3 Cape Copper, 23s. 25 Leadhills, 24 13s. 3d. 100 Tyn-y-Fron.
10 D'eresby, 25s. 25 Llanrwst, 23s. 5 Van, 23s. 1/2.
20 Derwent, 25s. 40 Morfa Ddu, 9s. 25 West Pateley Bridge.
20 Don Pedro, 12s. 100 Marke Valley, 9s. 6d. 25 Wh. Grenville.
40 East Caradon, 100 New Pacific, 6s. 6d. 20 W. Tankerville, 14s.
10 East Van, 25s. 50 North Lacey, 4s. 15 Wye Valley.
25 Eberhardt, 26 3s. 9d. 25 New Quebrada, 41s. 6d. 30 West Ashton, 13s. 9d.
50 Exchequer, 3s. 6d. 60 Parys Mount, 9s. 6d. 30 West Chiverton.
50 Flagstaff, 15s. 20 Pateley Bridge, 23 1/2.
20 Frontino, 31s. 100 Pestarena, 4s. 6d.

DIYOTON and TIVERTON BREWERY COMPANY.—Mr. BUMPUS can supply a limited number of these shares on advantageous terms to cash purchasers. The following Shares are worth buying for a rise, viz.:—WHEAL GRENVILLE, HULTAFALL, ROOKHOPE, SOUTH FRANCES, and PARYS MOUNTAIN.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Offices: 44, Threadneedle Street, London, E.C.

BANKERS.—THE NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. ENDREAN AND CO., STOCK AND SHARE DEALERS,
85, GRACECHURCH STREET, LONDON, E.C.

MR. M. F. DORMER, STOCK AND SHARE DEALER,
79, CORNHILL, LONDON, E.C.
Has business in 30 Hultafall; 30 East Van; 50 Holmshush; 35 Blue Tent; and 100 Fall Creek.

Orders executed with dispatch, and best information supplied on current market shares.

FERDINAND R. KIRK, STOCKBROKER,
5, BIRCHIN LANE, E.C.
Bankers: London and Westminster, and City Bank.

MINING—SPECIAL BUSINESS.—D'eresby Mountain, D'eresby Consols, Roman Gravels, Caron, Devon Consols, Leadhills, Tankerville, Minera, Great Lacey, Richmond, Eberhardt, Port Phillip, Kapanga, Llanes, Cape Copper, Flagstaff, Sierra Buttes, Chicago.

COLLIERIES.—Thorpe's Gawber, Newport Abercarn, New Shariston, Alltami, Cardiff and Swansea, Chapel House, Pelsall.

MISCELLANEOUS.—General Credit, Royal Aquarium, Yarmouth Aquarium, Brighton Aquarium, Hudson Bay, Ottago Investment, Diamond Rock.

FOREIGN BONDS.—Egyptian Preference, ditto United, Columbian, Bolivian, Turkish 1871, ditto 1865. A large business for fortnightly settlements is being done in several of these.

MESSRS. PETER WATSON AND CO.,
54, OLD BROAD STREET, LONDON, E.C.
BUSINESS IN STOCKS AND SHARES.
RAILWAYS, BANKS, DIVIDEND LEAD MINES, &c.
BANKERS: THE ALLIANCE BANK (LIMITED).

A CIRCULAR published MONTHLY. Single copy, 6d.; annually, 5s.

MR. ALFRED E. COOKE,
STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON, E.C.
ESTABLISHED 1853.

INVESTORS' GAZETTE, published every FRIDAY EVENING
in time for post, sent on receipt of postage stamp.
AN INVALUABLE PUBLICATION.

Edited by—
ALFRED E. COOKE, 76, OLD BROAD STREET, LONDON.

D'ERESBY MOUNTAIN AND D'ERESBY CONSOLS.
SPECIAL BUSINESS at lowest prices. D'ERESBY CONSOLS will, in all probability, immediately be in DEMAND at a PREMIUM. Applications for shares at par (£10 fully paid) must be made before TUESDAY next to—
MR. ALFRED E. COOKE, 76, OLD BROAD STREET, LONDON.

MR. JAMES STOCKER, STOCK AND SHARE BROKER,
AND MINING SHARE DEALER,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.
(Established 1848.)

RAILWAYS, FOREIGN BONDS, BANK, INSURANCE, TRAMWAY, and all MISCELLANEOUS STOCKS AND SHARES.

BRITISH AND FOREIGN MINES—

Abundant, 22s.	Pateley Bridge, 10s.	White Cliff, 11s. 9d.
Chapel House, 22s. <td>Penruthal, 5s.<td>Chontales, 11s. 9d.</td></td>	Penruthal, 5s. <td>Chontales, 11s. 9d.</td>	Chontales, 11s. 9d.
D'eresby Consols, 22s. <td>Pestarena, 5s. 3d.<td>Don Pedro, 12s.</td></td>	Pestarena, 5s. 3d. <td>Don Pedro, 12s.</td>	Don Pedro, 12s.
Derwent, 25s. <td>Roman Grav., 283s.<td>Eberhardt, 26.</td></td>	Roman Grav., 283s. <td>Eberhardt, 26.</td>	Eberhardt, 26.
East Van, 25s. <td>Rookhope, 18s. 9d.<td>Flagstaff, 15s.</td></td>	Rookhope, 18s. 9d. <td>Flagstaff, 15s.</td>	Flagstaff, 15s.
Grogwinion, 23s. <td>Tankerville, 23 3s.<td>Frontino, 31s. 6d.</td></td>	Tankerville, 23 3s. <td>Frontino, 31s. 6d.</td>	Frontino, 31s. 6d.
Glenroy, 17s. 9d. <td>Tincroft, 21 1/2s.<td>Hultafall, 24 1/2s.</td></td>	Tincroft, 21 1/2s. <td>Hultafall, 24 1/2s.</td>	Hultafall, 24 1/2s.
Great Lacey, 22 1/2s. <td>Temple Lead, 60s.<td>Last Chance, 16s. 6d.</td></td>	Temple Lead, 60s. <td>Last Chance, 16s. 6d.</td>	Last Chance, 16s. 6d.
Leadhills, 23 1/2s. <td>Van, 23 1/2s.<td>N. Zealand Kap., 12s.</td></td>	Van, 23 1/2s. <td>N. Zealand Kap., 12s.</td>	N. Zealand Kap., 12s.
Llanrwst, 23 1/2s. <td>W. Tankerville, 13s.<td>Port Phillip, 10s. 6d.</td></td>	W. Tankerville, 13s. <td>Port Phillip, 10s. 6d.</td>	Port Phillip, 10s. 6d.
North Lacey, 4s. <td>Wye Valley, 38s. 9d.<td>Richmond, 210.</td></td>	Wye Valley, 38s. 9d. <td>Richmond, 210.</td>	Richmond, 210.
Pandora, 12s. <td>West Wye Valley, 23 1/2s.<td>Tecoma, 3s. 6d.</td></td>	West Wye Valley, 23 1/2s. <td>Tecoma, 3s. 6d.</td>	Tecoma, 3s. 6d.
Parys Mountain, 9s. 6d. <td>Wh. Grenville, 23.<td>York Peninsula, 5s. 3d.</td></td>	Wh. Grenville, 23. <td>York Peninsula, 5s. 3d.</td>	York Peninsula, 5s. 3d.
Caron Brea, D'eresby Mountain, Devon Consols, Dolcoath, Mellanear, Minera, South Molton Consols, Wheal Crebor, West Godolphin, Wheal Kitty, Almada, Argentine, Chicago, Hornachos, Javali, Malabar, South Aurora, Tolima. <td></td> <td></td>		

COLLIERIES.—Alltami, Chapel House, New Shariston, and Thorpe's Gawber. MISCELLANEOUS.—St. Bride's Welsh Slate, Credit Foncier, Hudson's Bay, Lawes Chemical, Native Guano, Tramway, and Aquarium Shares.

BANKERS: LONDON AND WESTMINSTER.

MR. T. E. W. THOMAS, SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.
Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price—

Buyers.	Sellers.	Buyers.	Sellers.
Carn Brea, 22 1/2s.	24 1/2s.	New Quebrada, 2 1/2s.	2 1/2s.
Caron, 2 1/2s.	2 1/2s.	New Zealand Kapanga, 10s.	10s.
Chontales, 10s.	12s. 6d.	Panulillo, 1 1/2s.	1 1/2s.
D'eresby, 55	55	Parys Mountain, 9s.	10s.
Devon Great Consols, 2 1/2s.	3 1/2s.	Pateley Bridge, 2 1/2s.	3
Don Pedro, 10s.	12s. 6d.	Penruthal, 4s.	6s.
Eberhardt, 26	26	Richmond, 210	210
East Caradon, 7s. 6d.	12s. 6d.	Roman Gravels, 28 1/2s.	28 1/2s.
East Van, 25	25	Rookhope, 17 1/2s.	18s.
Exchequer Gold, 3s.	3 1/2s.	South Caradon, 8s.	8s.
Flagstaff, 14s.	14s.	South Condurrow, 11	11 1/2s.
Frontino, 1 1/2s.	2	Tankerville, 23 1/2s.	23 1/2s.
Glenroy, 14s.	14s.	Tincroft, 10	12
Gorsedd and Merilyn, 4	4 1/2s.	Van, 23 1/2s.	24
Grogwinion, 23 1/2s.	23 1/2s.	West Chiverton, 11	13
Great Lacey, 20	21	West Pateley Bridge, 1 1/2s.	2
Hultafall, 4	4 1/2s.	West Godolphin, 17s. 6d.	22s. 6d.
Hornachos, 8	10	West Tankerville, 10s.	10s.
Kingston, 14s.	14s.	West Wye Valley, 23 1/2s.	23 1/2s.
Last Chance, 16s.	16s.	W. Grenville, 23 1/2s.	23 1/2s.
Ladywell, 17s. 6d.	20s.	Wheal Kitty, 13 1/2s.	2 1/2s.
Leadhills, 3 1/2s.	4	Wye Valley, 1 1/2s.	2
Marke Valley, 10s.	12s. 6d.	York Peninsula, 5s.	6s.
North Lacey, 3s. 6d.	4s. 6d.		

Selections, founded on practical mining knowledge, made for the use of investors. An experience of 20 years.—Business on hand in East Van, Roman Gravels, Leadhills, Gorsedd and Merilyn, Tyn-y-fon, and other Lead Mines. No improvement of consequence has occurred in East Van. South Condurrow is now the best Tin Mine in Cornwall.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C. (Established 21 Years),
can sell the following SHARES, at prices annexed—

75 Almada, 7s.	100 Exchequer, 3s. 9d.	50 Parys Mount, 10s. 6d.
30 Argentine, £1 1s. 3d. <td>20 Frontino, £1 13s. 6d.<td>150 Penruthal, 5s. 6d.</td></td>	20 Frontino, £1 13s. 6d. <td>150 Penruthal, 5s. 6d.</td>	150 Penruthal, 5s. 6d.
100 Aberdaunt, 20 <td>30 Flagstaff, 14s.<td>90 Port Phillip, 11s. 6d.</td></td>	30 Flagstaff, 14s. <td>90 Port Phillip, 11s. 6d.</td>	90 Port Phillip, 11s. 6d.
50 Bodidris, 20 <td>20 Gorsedd & Merilyn, 24 1/2s.<td>65 Rookhope, 18s. 6d.</td></td>	20 Gorsedd & Merilyn, 24 1/2s. <td>65 Rookhope, 18s. 6d.</td>	65 Rookhope, 18s. 6d.
25 Birdseye Creek, 18s. 9d. <td>10 Great Lacey, £21.<td>10 Richmond, £10.</td></td>	10 Great Lacey, £21. <td>10 Richmond, £10.</td>	10 Richmond, £10.
40 Chontales, 12s. <td>10 Grogwinion £23 1/2s.<td>10 Roman Grav., 28 7 1/2s.</td></td>	10 Grogwinion £23 1/2s. <td>10 Roman Grav., 28 7 1/2s.</td>	10 Roman Grav., 28 7 1/2s.
50 Chamberlain, £2 12s. 6d. <td>25 Glenroy, 16s.<td>20 Ruby, 10s.</td></td>	25 Glenroy, 16s. <td>20 Ruby, 10s.</td>	20 Ruby, 10s.
52 Chapel House, £2 16s. <td>20 Hultafall, 24 1/2s.<td>30 Tankerville, £23 12s. 6d.</td></td>	20 Hultafall, 24 1/2s. <td>30 Tankerville, £23 12s. 6d.</td>	30 Tankerville, £23 12s. 6d.
15 Caron, £2 7s. 6d. <td>20 Kingston, 9s.<td>100 Tecoma, 4s.</td></td>	20 Kingston, 9s. <td>100 Tecoma, 4s.</td>	100 Tecoma, 4s.
25 Condes de Chili, 10s. <td>25 Last Chance, 16s. 6d.<td>40 Tyn-y-Fron, 22 1/2s.</td></td>	25 Last Chance, 16s. 6d. <td>40 Tyn-y-Fron, 22 1/2s.</td>	40 Tyn-y-Fron, 22 1/2s.
30 Chicago, £1 7s. 6d. <td>15 Ladywell, 18s. 3d.<td>5 Van, £24 15s.</td></td>	15 Ladywell, 18s. 3d. <td>5 Van, £24 15s.</td>	5 Van, £24 15s.
60 Don Pedro, 12s. 6d. <td>25 Leadhills, £3 18s. 9d.<td>30 West Pateley Bridge, £22 5s. 6d.</td></td>	25 Leadhills, £3 18s. 9d. <td>30 West Pateley Bridge, £22 5s. 6d.</td>	30 West Pateley Bridge, £22 5s. 6d.
20 Devon Cons., £23 3s. 9d. <td>40 N. Quebrada, £1 17s. 6d.<td>20 W. Tankerville, 13s.</td></td>	40 N. Quebrada, £1 17s. 6d. <td>20 W. Tankerville, 13s.</td>	20 W. Tankerville, 13s.
3 D'eresby, 25s. <td>25 Nth. Lacey, 4s.<td>50 York Penin., 5s. 6d.</td></td>	25 Nth. Lacey, 4s. <td>50 York Penin., 5s. 6d.</td>	50 York Penin., 5s. 6d.
10 East Van, 25s. <td>25 Marke Valley, 12s.<td>25 West Godolphin, 30s.</td></td>	25 Marke Valley, 12s. <td>25 West Godolphin, 30s.</td>	25 West Godolphin, 30s.
15 Eberhardt, 26 5s. <td>5 Minera, £11 10s.<td>25 W. Grenville, £27 7 1/2s.</td></td>	5 Minera, £11 10s. <td>25 W. Grenville, £27 7 1/2s.</td>	25 W. Grenville, £27 7 1/2s.
20 East Caradon, 11s. 6d. <td>75 Pestarena, 5s. 3d.<td>20 Pateley Bridge, £27 17 1/2s.</td></td>	75 Pestarena, 5s. 3d. <td>20 Pateley Bridge, £27 17 1/2s.</td>	20 Pateley Bridge, £27 17 1/2s.

Shares bought and sold at net prices. Telegrams promptly attended to.

LANRWST.—BUYER of 100 Shares or any part at best market price.

MR. E. J. BARTLETT, STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.
Special Business in Bodidris, Blaen Caelan, Minera, Great Lacey, and East Lovell shares.

Tenth Edition of
"HOW AND WHEN TO INVEST."
Forwarded, post free, One Shilling.

WILLIAM GABBOTT, STOCK AND SHARE DEALER,
8, DRAPER'S GARDENS, THROGMORTON STREET,
LONDON, E.C.

JOSEPH JOHN PYNE,
STOCK AND SHARE BROKER, AND
MINING SHARE DEALER,
6, BISHOPSGATE, LONDON, E.C.

Mr. PYNE having been connected with MINING ENTERPRISE for upwards of FOURTEEN YEARS, and having been a DIRECTOR of MINES in SHROPSHIRE, MONTGOMERYSHIRE, CARDIGANSHIRE, CARNARVONSHIRE, YORKSHIRE, and in VENEZUELA, has had great opportunities of becoming acquainted with this particular branch of industry, and will always be desirous of giving every information in his power to all parties transacting business with him.

ALL DESCRIPTIONS OF SHARES are dealt in, including BRITISH and FOREIGN STOCKS, and RAILWAY SECURITIES.

A DAILY SHARE LIST issued, giving latest quotations up to the close of the market.

AN EXTENDED LIST made up to the first of every month of all securities usually dealt in, giving highest and lowest prices for the month, the current dividends, and when payable, with amount of interest calculated at the present market price. Will be forwarded when desired.

MR. PYNE DOES NOT ISSUE ANY CIRCULAR.
BANKERS.—THE ALLIANCE BANK (LIMITED).

Now ready, price 10s. 6d., post free.
INVESTORS' HANDBOOK:
By CHARLES THOMAS, F.S.A., F.G.S.
CONTAINS—In addition to full particulars of the various Investment Securities, interesting Chapters on—
USEFUL INFORMATION FOR INVESTORS IN MINING COMPANIES.
ANTIQUITY AND PROGRESS OF MINING.
MINING A SOURCE OF NATIONAL WEALTH.
DISCOVERY AND WORKING OF MINES.
SUCCESS OF MINING—CHIEF MINING DISTRICTS.
MINING TECHNICALITIES—COLONIAL AND FOREIGN MINES.
Published by—
CHARLES THOMAS, 3, GREAT ST. HELEN'S, LONDON, E.C.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MR. ALFRED THOMAS,
MINING AGENT, AND STOCK AND SHARE DEALER,
10, COLEMAN STREET, LONDON, E.C.

BUYER of Aberdaunt shares at 5s.

"INVESTMENTS AND SPECULATIONS" for 1878.
Price Sixpence.

TO CAPITALISTS, SHAREHOLDERS, TRUSTEES, INVESTORS.

SHARP'S INVESTMENT CIRCULAR.

Read the MARCH Edition. Post free.

SAFE INVESTMENTS TO PAY 4 TO 6 AND 8 PER CENT.

It is a "Safe Guide" to Investors, containing reliable information upon all Stock and Share Investments; also all the Safest Dividend Investments of the day.

SAFE INVESTMENTS IN THE FOLLOWING—

English, Foreign Railways.	Insurance, Gas, Waterworks.
Preference, Debenture Stocks. <td>Foreign Stocks, Bonds.</td>	Foreign Stocks, Bonds.
American Stocks and Bonds. <td>British, Foreign, Colonial Mines.</td>	British, Foreign, Colonial Mines.
Bank, Financial, Shares. <td>Tea and Land Shares.</td>	Tea and Land Shares.
Tramway, Telegraph Shares. <td>Shipping, Dock Shares.</td>	Shipping, Dock Shares.
Continental Town Bonds. <td>Indian, Colonial Stocks.</td>	Indian, Colonial Stocks.
Municipal Bonds. <td>Miscellaneous Shares, &c., &c.</td>	Miscellaneous Shares, &c., &c.

Market prices: Dividends upon outlay, and when payable; Reports, &c., &c.

GOULD SHARP AND CO., STOCK AND SHARE BROKERS,

42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.

Bankers: London and Westminster, Lothbury, London, E.C.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

MR. THOMAS THOMPSON, JUN., STOCK BROKER,
1, PALMERSTON BUILDINGS, BISHOPSGATE STREET,
LONDON, E.C.

Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.

Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends upon present prices.

Mr. THOMPSON'S weekly Circular may be had on application.

WILLIAM B. COBB, STOCK AND SHARE DEALER,
62, CORNHILL, LONDON, E.C.
Bankers: The Alliance Bank (Limited).

MESSRS. J. TAYLOR AND CO.,
MINING ENGINEERS AND INSPECTORS,
86, LONDON WALL, LONDON, E.C.
Have Agents in England, Scotland, Wales, and on the Continent.

MESSRS. W. J. TALLENTIRE AND CO.,
STOCK BROKERS, AND DEALERS IN BANK, TRAMWAY,
MINING, AND MISCELLANEOUS SHARES,
20, CHANGE ALLEY, CORNHILL, LONDON, E.C.

Transact business in Stock Exchange Securities and Mining Shares of every description, either for immediate cash or the usual bi-monthly settlements, and also afford advice personally or by letter to executors, trustees, capitalists, and investors of every class in the selection of Securities for safe and profitable investment, their experience of the markets, extending over a period of more than 17 years' together with special facilities for acquiring information, enabling them to act beneficially for clients.

They have established Corresponding Agencies in all the principal towns of the United Kingdom, and are prepared to deal in the various local Stocks and Shares at close prices. Orders per post or telegraph receive prompt attention.

INVESTORS SHOULD APPLY for a copy of Messrs. W. J. TALLENTIRE and Co.'s Circular, SENT POST FREE. It contains valuable information on Foreign Stock, Railway, Mining, and General Investments.

TO INTENDING INVESTORS AND SHAREHOLDERS.

MESSRS. W. J. TALLENTIRE AND CO., 20, CHANGE ALLEY,
CORNHILL, LONDON, E.C., have the following MINING SHARES FOR SALE.

OFFERS CAN BE MADE, OR PRICES WILL BE FORWARDED:—

100 BEDFORD UNITED, COPPER.	100 PENNERLEY, LEAD.
50 BODIDRIS, LEAD. <td>100 ROKHOPE, do</td>	100 ROKHOPE, do
30 CARON BREA, TIN. <td>15 ROMAN GRAVELS, do</td>	15 ROMAN GRAVELS, do
10 DOLCOATH, do	50 RED ROCK, do
15 EAST CRAVEN MOOR, LEAD. <td>20 SO. CWMYSTWILH, do</td>	20 SO. CWMYSTWILH, do
50 EAST CHIVERTON, do	15 ST. HARMON, do
20 EAST VAN, do	20 SOUTH CONDURROW, TYN.
200 GLENROY, do	10 TANKERVILLE, LEAD.
10 GREAT HOLWAY, do	60 VAN CONSOLS, do
4 GREAT LACEY, do	5 WEST WYE VALLEY, do
20 LLANRWST, do	50 WHEAL AGAR, TYN.
40 HULTAFALL, do	20 WEST CRAVEN MOOR, LEAD.
30 LOVELL, TIN. <td>25 WEST CHIVERTON, do</td>	25 WEST CHIVERTON, do
100 MEDLYN MOOR, do	25 WHEAL JANE, TIN.
150 NORTH LACEY, LEAD. <td>100 WHEAL CREBOR, COPPER.</td>	100 WHEAL CREBOR, COPPER.
50 PARYS MOUNTAIN, COPPER. <td>20 WHEAL GRENVILLE, do</td>	20 WHEAL GRENVILLE, do
100 PRINCE OF WALES, TIN. <td>10 WHEAL PEEVOR, TIN.</td>	10 WHEAL PEEVOR, TIN.
20 PANDORA, LEAD. <td></td>	

N.B.—Some of the above will be sold on specially favourable terms to cash purchasers.

MESSRS. H. HALFORD AND CO., STOCK AND SHARE BROKERS,
of EXCHANGE CHAMBERS, CHANGE ALLEY, LOMBARD STREET, strongly recommend the above mine as one of the best and safest mining investments. Dividends are paid half-yearly. The mine has lately very much improved in the deepest workings, and the sales for the present month are 150 tons of lead.

WYE VALLEY, WEST WYE VALLEY, RED ROCK, AND SOUTH CWMYSTWILH LEAD MINES.

These mines have all recently improved very much, and large sales of lead are being made. Shares in all of them should be secured at once.

CARON LEAD MINE (LIMITED).

Subscribed Capital £16,000 (all subscribed in a few days).

This company is likely to prove one of the greatest successes of modern times. The mine is now in full work, good

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.—No. LXVI.*

BY J. CLARK JEFFERSON, A.R.S.M., WIL. SC.,

Certificated Mining Engineer.

(Formerly Student at the Royal Bergakademie, Clausthal.)

[The Author reserves the right of reproduction.]

SECTION V.

GENERAL PRINCIPLES.—All the varieties of timbering used in mining may be divided into two classes.

1.—Simple or single timbering, which consists of a single piece only, such as a stemple or prop (having at most only an additional piece or two to serve as a cap or lid) placed in such a position as to receive and oppose the pressure in a direct line.

2.—Combined or compound timbering, consisting, as its name signifies, of several pieces joined together, which mutually support each other, and constitute together a definite whole. These separate pieces, which constitute a given form of timbering, may again be divided into two classes, those which form the main portion of the timber, and are intended to support the main pressure, and are, therefore, called the principal timbers; and those which are intended either for keeping the principal timbers in their position, or for distributing the pressure suitably over and among the main timbers, or for filling up the space between the principal timbering and the sides or walls, or for covering up and preventing the falling through of loose strata, all of which we may call accessory timbers.

Although the above definitions are suitable and practicable as regards the use of the timber underground, yet the form in which it is procured is necessarily often different; but the different forms in which the timber is procured are dependent chiefly on the use to which it is to be applied.

The principal form in which timber is procured for mines is round wood, or stem wood—the trunk or stems of trees cut in suitable lengths—and as such is used chiefly for props in coal mines and for stem-props in metalliferous mines. The diameter varies from 6 in. to 18 in. in most cases; occasionally, as shaft timbering, a diameter of more than 18 in. may be used. In some cases, such as in coal mines, the timber may be bought in definite lengths suited to the thickness of the seam, or in others the trees (pine) are bought in their entirety (except the roots) as sawn, and afterwards cut at the mine to the desired length. The upper tapering end, which may, however, be used in coal mines for brattice props, and in metalliferous mines or in quick ground for—"Abtreibe"—timbering (to be afterwards explained) is very often cut off, and not bought with the other timbering. This thin tapering end of a pine tree, if it be perfectly straight, may be used for ladders in metalliferous mines, though it may in many cases be found the cheapest to buy the ladders ready made, or at least the wood ready sawn. These tapering ends of pine trees, from 4 in. to 6 in. diameter, are often obtained in lengths from 25 ft. to 30 ft. When sawn into laths they are useful for a variety of purposes underground, as railings, ladder sides, covering wood, &c. Except as round or half round timber pine is not often used in mines. According to Burat half round wood was extensively used in the Chamouny Colliery, the flat surface being placed next to the face of the rock, and the round portion turned inwards to the level. When sawn timber is used in the mines leaf wood is generally used for the purpose, the chief object in sawing the timber being to obtain a regular shape, and in the case of oak the removal of the outer wood. For watertight timbering it will be indispensably necessary to use sawn timber, which may even afterwards have to be planed. Planing will always be necessary in the case of wooden conductors, and care should be taken in selecting timber for the latter purpose to see that it is well seasoned, and not liable to warp, and that the pieces contain as few knots as possible. Planed and sawn timbers are chiefly used in shaft timbering, doors and door sets, scaffolding, road planks, sleepers, water dams, &c. A very useful kind of sawn timber is that which is called "Schwarten" by the German miners. They are long pieces of wood, which have been sawn off the outer portion of a stem, and consequently have for section a larger or smaller segment of a circle, and thus have only one sawn surface. The "Schwarten" are useful for a variety of purposes, chiefly as covering or scaffold timber, by "Getriebe" timbering to keep back loose ground or strata, and hence sometimes called "Abtreibe-Schwarten." For this purpose they are specially adapted owing to the smoothness of the round surface, which allows of their being driven forward in loose strata with less friction than timber sawn on all sides. As might be expected, the "Schwarten" are not capable of bearing any great weight of themselves, but more, perhaps, than would at first appear, since they are almost entirely obtained from pine wood, in which the outer portion is stronger and more resinous than the core wood. They usually taper from 4 in. to 2 in. in thickness, and have a width of from 3 in. to 6 in. In cases of great pressure and constant dampness, where the changing of the timber is difficult, the "Schwarten" may be made of oak, on account of its greater strength and durability. For solid timbering they are sometimes made of the same thickness throughout, and even in special cases sawn into rectangular pieces, when they are more properly called "Strassbaume," or "Streichbaume."† Such rectangular timbering is used chiefly in cases where two or more pieces shall fit close together. Boards and planks are also used in mines for variety of purposes, such as scaffolding, covering wood for keeping back loose ground, stagings, corves, shaft timbering, &c., varying in thickness from 4 in. downwards.

In many of the German mines the erection of timber underground is placed in the hands of a special workman, or underground timberman. In metalliferous mines, perhaps more than in coal mines, is such a course advisable, since the combinations and variety in the timbering which occur underground require more than a mere superficial knowledge or skill as carpenter. Such a person requires special experience and skill; he should not only be handy at his own work as a carpenter, but, as in almost all cases a preparatory dressing of the rock, or cutting out to a suitable size and form of the place for the timbering is necessary, he should be able to handle a miner's tool. Besides this he should have had sufficient experience underground to readily appreciate in all cases the direction in which the pressure exerts itself, and to decide at once upon the best form of timbering for the purpose. With this will often be required coolness and nerve, as many cases will occur in which a little timely aid in the shape of props and struts will make an otherwise dangerous place safe to work in, and in which an ordinary inexperienced (with respect to underground work) carpenter would be so frightened that either he would shirk putting up the timber at all, or do it in such a hasty manner that it would be perfectly useless for the work. In the ordinary working of mines, however, cases will often happen in which it is necessary that the timbering be put up at once, without admitting of the delay necessary to fetch the regularly appointed timberman. Such an instance will repeatedly occur in the working faces in coal mines, when the collier himself, by a few well-placed props and lids can make the working place secure, which would otherwise in half an hour become completely closed up, owing to the fall of the roof. In many coal mines the timbering of the working face, and the borrowing or robbing of the back timber, falls upon the colliers themselves, in others the borrowing of the timber at least is the work of specially appointed workmen. The robbing of back timber and the replacing of old rotten or broken timber are, perhaps, the most dangerous of mining operations, and on that account alone should be performed only by

specially trained and experienced workmen. The saving of expense by leaving the borrowing of the timber to the colliers is doubtful, since there is little or no inducement to a collier to recover back timber, which takes up more of his time than the setting of a new prop, besides to an inexperienced man being somewhat dangerous. The cost for timber is a heavy item in most collieries, and there can be no doubt but some saving in this would be obtained were the recovery of back timber, &c., placed in the hands of special workmen, who might be required to keep some account of fresh timber sent down the pit, and that lost in the goaves, or broken by not being withdrawn in time. In metalliferous mines the timbering is usually a more complex affair than in collieries, and requires to be carried out with more care and exactitude; the timber itself requires to be fitted better in position, and remains longer. The carpenter of a metalliferous mine, therefore, requires more skill and variety of experience, and the fixing of a set of timbering will require more time. For coal mines the surface work alone will require a carpenter's shop at the top, and it is usual here to cut and prepare the timber to size and shape before sending it down the pit. Such a surface carpenter is advisable in the case of all metalliferous mines which have sufficient employment for one; and before cutting and preparing the timbering he himself should go underground and measure the requisite dimensions, since any later preparing or fitting of the timber in the mine is much more inconvenient and expensive than at the surface, and such a course is cheaper than if it were necessary every time for the underground timbermen to come to the surface and cut and prepare their own timbering, and besides in many cases will also effect a saving of time. When not so employed he might be engaged in sawing and getting ready timber for general uses and stores, such as the cutting of props and sprags of the most usual lengths, sleepers, corf timber, stemples, planks, and the like. The employment of such a surface carpenter is usual not only in collieries but in many of the Prussian metalliferous mines. In many cases the timbering work, both underground and at the surface, can be given out as piece-work; and it is advisable to do so, except in cases where there is any great liability of the quality and soundness of the work suffering from such a course. As such may be cited the fixing of door sets, scaffolding, stemples, shaft timbering, &c.; where, however, the work is one which occurs but rarely, and under varying conditions and dimensions, it will be difficult to fix upon a price, and such will be best carried out by day-wage under supervision. In the case of extensive mines it may even be advisable to appoint a foreman carpenter, or timberman, whose sole work shall be the oversight and charge of all timbering at the surface and underground, on whom would then devolve the responsibility of examining the timbering, and seeing that it was properly and satisfactorily carried out by the carpenters, and the decision as to the necessity of replacing old timbering, and the most suitable form of timbering under the momentary conditions and requirements. Some of the German mines have two such foremen carpenters, one for the surface and one for underground.

The principal tools used by a pit carpenter are the following:—The hatchet, or axe, which is found in a variety of forms, according to the locality, is perhaps the most important tool belonging to the mine carpenter, and is usually carried by continental miners stuck in the belt. The difference between an axe and a hatchet is not well defined. According to many Prussian miners an axe has the cutting edge tapering on both sides, whilst in the hatchet one side only of the blade is perfectly flat, the other being ground to make a cutting edge. According to this a blow with the hatchet requires to be struck only in the plane in which the face is to be cut, whilst an axe will require holding somewhat obliquely whilst the blow is being struck. In England an axe is often distinguished from a hatchet, inasmuch that in the latter the cutting edge is formed by grinding a bevel edge at the end of the blade, whilst in the former the edge is not bevelled, but tapers gradually to the cutting edge. The blade of an ordinary rectangular axe or hatchet is about 6 to 8 in. long and 3 in. deep; the head weighs from 2 to 8 lbs. The length of the handle varies considerably, according to local requirements—14 to 24 in. being very common limits. Where the timbering is heavy and there is plenty of room, the handle may be as much as 30 to 36 in. long, as in the Hartz Mines. The back of the eye or poll is sometimes faced with steel, and then is often used in the place of a hammer. At Altenberg, in Saxony, the back of the eye is prolonged as a hammer head, the tool being used as a hammer for driving the "Schwarten" when driving in loose ground. Many axes or hatchets have the cutting edge broader than the rest of the blade, which is often curved instead of being straight. When very broad it is called the broad hatchet. In Westphalia the broad hatchet has the handle fixed in it somewhat inclined to the plane of the blade. Many hatchets which have a perfectly straight edge and a uniform depth of the blade are furnished at the inside edge with a small nick or slot, which makes it thus a very handy tool for extracting nails and the like; others have a short piece forming two claws welded or attached to the poll or back of the axe for the same purpose. The cutting edge of the axe or hatchet is ground at an angle varying from 20° to 30°. According to Sichel, the use of a hacking pick was very frequent formerly at the Spanish mines. This consists of a belly-shaped knife or blade, the handle of which is made of iron, and forms a long loop, being welded to the knife blade, the loop of the handle being sufficiently large for the insertion of the hand. The most usual tool amongst the Spanish mine carpenters is the so-called "azuela," consisting of a broad plate about 8 centim. wide and 12 centim. high, the lower portion forming the cutting edge the upper end being prolonged in a tongue piece. This tongue piece has a slight indentation, in which a rectangular iron hoop fits; the hoop embracing the tongue piece and a strong wooden handle, which abuts against the tongue piece, being curved sharply downwards at the back end. This instrument, notwithstanding the apparent want of rigid connection between the blade and the handle, is said to be an extremely useful instrument either for use at the surface or underground. The compactness and lightness of the instrument are, doubtless, its two chief advantages.

The blade of a hatchet is usually formed by doubling a flat piece of iron over a steel-plate, and welding them together, so that when the hatchet blade is ground on both sides to form the cutting edge the iron is ground away on both sides, leaving the steel plate projecting sufficiently to form the cutting edge. In many cases the blade of a hatchet is symmetrical in shape; in others the main part of the blade may be within a perpendicular to the handle through the middle of the eye (i.e., projects towards the handle), and hence called the inlying axe heads, whilst in others the main parts of the blade lie without the perpendicular to the handle through the middle of the eye, and hence called outlying axe heads. The inlying axe heads appear most suitable where the radius in which the axe is swung is comparatively short; whilst in the case of outlying axe heads the effective radius is increased. As in the case of all sharp-edged tools the degree of sharpness depends mostly upon the greater or less hardness of the wood to be cut. A hard wood requires a more obtuse angle between the two faces of the cutting edge, generally varying between 20° and 30°. The weight of the blade varies between 3 lbs. and 7 lbs. The ordinary form of axe presupposes that the face of wood to be cut is in a vertical plane. This, although the most favourable position for an effective blow, is suited chiefly for cases where chopping is the principal object; where, however, it is of importance to have a smooth and plane face this is best accomplished by the horizontal underhand swinging motion of the adze, in which the cutting edge is more readily preserved in one plane than in the case of the movement of the blade of the axe in a vertical plane.

ARTIFICIAL FUEL.—At the recent meeting of the American Institute of Mining Engineers (Dr. T. Sterry Hunt, the President, in the chair), Mr. E. F. LOISEAU read a paper on the "Manufacture of Artificial Fuel at Port Richmond, Philadelphia." Mr. Loiseau has been for many years improving his processes, and has designed several machines for the continuous and automatic production of small lumps. At Port Richmond he has introduced a drying apparatus composed of two heated inclined drums, 18 ft. by 30 in., through

which the coal dust passes in five minutes; he hopes to have the prepared fuel in the market in the course of a few weeks. The lumps are subsequently waterproofed.

THE GREAT EXHIBITION IN PARIS.

IMPROVEMENTS IN CROSSING THE CHANNEL.

The Channel passage has so long been the dread of Cockney tourists and to Frenchmen, almost without exception, that the interchange of visits of pleasure and even commercial intercourse have been much restricted; but there appears to be no longer any doubt that a complete remedy has been found—that sea sickness need no longer be feared by the most inveterate landsman during a sea passage which will occupy no longer time, and cause no more disturbance to the most sensitive stomach, than a trip from London to Woolwich and back again. The official trial of the Channel Steamship Company's twin paddle steamer Express, built by Messrs. A. Leslie and Co., of Hebburn, and which it is intended to run between Dover and Calais, was made on Saturday, and the success was so complete that dissatisfaction was impossible, and when the details of the improvements are considered the most surprising feature appears to be that such vessels as the Express have not long ere this come into general use for the Channel traffic. The great advantage of all vessels of the Castalia and Express character is that the beam is so greatly increased that they ride like a raft, whilst their size enables them to sit on two waves simultaneously, and prevents their becoming too lively. The problem to be solved has been when central paddles have been used to keep them well in the water, as when rotating in a trough between two waves they, of course, do nothing to propel the vessel, and thus obtain a maximum speed.

The Castalia, which was designed by Capt. Dicey, the originator of the Channel Steamship Company, was built by the Thames Ship-building Company, and was of a very novel construction. Capt. Dicey took an ordinary steamer, and cutting the hull in two connected the two halves together by building over them a large oblong superstructure, in which was placed the whole of the passenger accommodation. Under this superstructure were placed the paddle wheels by which the steamer was propelled. As is now pretty well known, both the Castalia and the Bessemer, tried about the same time, proved unsuccessful and unprofitable to their respective owners, and in the case of the Castalia the failure lay in the want of sufficient speed. The passengers by her missed their trains, and were thrown into the extra expense and inconvenience of staying overnight at Dover and Calais. So great, however, were the advantages in the accommodation of the saloons and cabins in Capt. Dicey's ship that, notwithstanding the slowness of her rate of speed, many passengers preferred to risk the Channel passage in her rather than suffer the pitching and rolling of the more swift steamers. Convinced of the superior benefits of the twin-ship principle for Channel passage, provided the desired speed could be attained, the company determined to try once more, and enlisted the services of Mr. Andrew Leslie, of Hebburn, who at once set about gathering data from the results of the running of the Castalia, and conducted, with the assistance of Mr. Wm. Parker, chief engineer/surveyor of Lloyds, a number of experiments. Among other trials he had two of the ordinary Woolwich steamers lashed together, and as the result he came to the conclusion that he could so improve upon Capt. Dicey's plans as to enable his firm to turn out a steamer that would meet all the requirements of the Channel passage, which was that the draft of water should not exceed 7 ft., and that the minimum speed should be 14 knots per hour. The great difficulty to be overcome was, of course, to get sufficient power of engines in the boat so as not to immerse her too deeply in the water; and this difficulty has been entirely removed at Hebburn, for the Express draws about 1 ft. less water than the Castalia, though she is 10 ft. longer, and about 1 ft. broader. The two hulls are about 1 ft. wider than in the Castalia, and the channel between the two vessels is about 2 ft. narrower.

The leading feature of difference between the Castalia and the Express lies in the construction of the hulls, inasmuch as whereas the former is two half-ships—the insides being flat, and the outsides elliptical, as in ordinary steamers—placed a certain distance apart, and giving a parallel channel between, the Express is made up of two complete ships, each having symmetrical sides, thus making the channel wider at the ends of the vessels, and narrower where the paddle-wheels work. This had the effect of giving a plentiful supply of water to the wheels, and enabling them to utilise a much greater proportion of power than in the case of the parallel channel. The length of the Express is 300 ft. overall; breadth of beam, 61 ft.; do. extreme over sponsons, 63 ft. 6 in.; depth of hulls moulded, 14 ft. 6 in.; height of superstructure, 8 ft.; length, about 200 ft.; width of each, 18 ft. 3 in.; clear width between hulls, 25 ft. 6 in.; draft of water, complete, with 90 tons of coal in her, 6 ft. 7 in. forward, and 6 ft. 8 in. aft. Another difficulty to be contended against in the construction was to unite the two hulls so completely and rigidly together that combined they might withstand and sustain the shocks and strains which they were sure to encounter in the rough seas of the English Channel. This was achieved by means of four transverse iron girder bulkheads, which entirely span over the channel between the two vessels and enter into the construction of the hulls from the keels to the upper decks. These girders are made upon the same principle as that upon which railway bridges are constructed, and are so arranged that the partitions and decorations of the saloons on deck completely conceal them from view. The great amount of solidity given to the united vessels by this ingenious contrivance is fully manifest in the easy motion of the vessel, and the vibration, so common in large vessels being propelled by engines working at over 4000-horse power, is not so great as might be expected. Another novel feature in the Express is to be found in the rudders. Of these there are four in the complete steamer—one at each end of each hull, the Express being made with both ends alike, so that she can steam either ahead or astern, and so enter her stations without having to turn round. Each rudder is so constructed as to form part of the bow of the ship—narrow at the outer end, and wider at the inner end—and so adds to the buoyancy of the whole, at the same time offering the least possible resistance to the speed of the vessel. The rudders work upon a centre pin, and when not in use are securely locked into a line with the bows by means of strong bolts which are raised or lowered from the working decks by means of cranks. The passenger accommodation is all situated in the huge superstructure which binds the two hulls together. The general saloon, which is situated in the fore end of the vessel, and occupies the whole width of the superstructure, is a handsomely furnished and spacious apartment. The walls are round, and are lined with beautiful white marble let in panels between circular pillars of the same material. The cold grey of the marble is relieved by rich and elaborate gold decorations in relief, while the columns are topped with a gold gilt cap of Corinthian design. The seats and cushions round the saloon are done in deep crimson plush velvet, which impart a warmth and gorgeousness to the general aspect of the saloon. All round the saloon are ranged windows, from which the passengers can easily look out upon the scenery beyond. Behind the general saloon is situated that set apart for the exclusive use of ladies, and is fitted up with the same view to comfort. These saloons are approached by separate sets of circular stairs from the upper deck. At the further end of the superstructure are the refreshment saloon and a number of private cabins for the use of families and such persons as desire to enjoy their trip between the two countries in privacy. These are also entered by means of distinct stairs from the upper deck, the tops of the stairs in these and the other saloons being sheltered by a large round house, with glass panels, and wherein a comfortable lounge may be had. The refreshment room is comfortably furnished with seats and lounges, covered with brilliant chintz, and at one end are placed a large bar window and steward's pantry, along with all the necessary conveniences. Each saloon is furnished with handsome mirrors, and attached to each are the usual lavatories and other conveniences. There is accommodation for over a thousand passengers. The engine space is situated in the centre of the deck, between the two sets of saloons, and each engine-room is approached from the deck by either side. As the working of the engines is likely to afford some interest to the passengers, a gallery has been arranged round each room, one as a gen-

* Being Notes on a Course of Lectures on Mining, delivered by Herr Berggrath, Dr. von Gundrock, Director of the Royal Bergakademie, Clausthal, The Hartz, North Germany.

† The writer is compelled in many cases to retain the German names, owing to want of corresponding generally used English names. The term "string piece," which corresponds to the German "Strassbaume" has a much more limited meaning than the latter.

ral promoter
smoke, and
But in a
of infinitel
in the case
lines of the
which were
head, are c
cylinders i
crank pin.
of the sort
minute. T
indicated n
solid into
ders and t
with the e
to obtain
working m
having the
blocks are
rods and a
is complet
pumps. T
der, and t
shutting o
gear and p
weight mi
shaft is be
which are
other—it b
other is ba
The exten
10 floats, m
depth. Ev
several iron
wheels car
from four
each boiler
number of
are each 3
have an ar
face of 135
the engine
were cast
Shields, t
inch, which
speed, or 4
at the sam
nished wit
nected, so
be filled fr
There are f
6 in. secti
deck, a hor
apparatus
hood's pate
and Hardi
is worked i
manage wi
had to guid
windlasses
four lifebo
is reserved
vessel, and
the sailors
of the vess
In the tri
be desired.
sea the tug
for a run o
speed, the
sea boat, b
ning on the
the movem
so often fel
from any p
nearly 4200
gularity, te
high finish
between W
14 knots—t
far as the C
would be o
opinion as
the English
224 miles, w
run southw
the Express
capacities,
plied in the
speed of 14
value of thi
Channel is
80 minutes,
achieved a
than the sh
fidently an
a speed of 1
will be mad

Mr. JAMES
a lecture at
Manufactur
in introduc
enough to h
quibon (re
would reg
their consi
manufactur
must rely o
were gone f
the manuf
(Applause).
commencer
ing interest
it was prod
of fortune
Steel, he s
manufactur
as shall be
lecturer th
teresting a
present, by
sive adopt
was a very
paratively
stricted w
kingdom, a
of Bessem
the use of
more and
were now
of the en
same mig
the engin
steam is a
find the t
of war; t
calibre, t

ral promenade, where gentlemen may indulge in the luxury of a smoke, and the other for the exclusive use of ladies.

But in all matters of this kind the propelling arrangements are of infinitely more importance than the fittings and decorations; and in the case of the Express every care has been taken that the fine lines of the twin hulls shall be utilised to the utmost. The engines, which were erected by Messrs. Black, Hawthorn, and Co., of Gateshead, are constructed upon the diagonal inclined principle, with two cylinders in each half of the steamer, each pair working upon one crank pin. The cylinders are each 63 in. in diameter, and the strokes of the pistons are 6 ft., and they travel at the rate of 480 ft. per minute. The engines, while making 40 revolutions per minute, have indicated no less than 4200 horse power; the engine frames are built solid into the vessel, and guiding bars form a tie between the cylinders and the main shaft; all the engine frames are of wrought-iron, with the exception of the carriages, which are of cast-iron. In order to obtain lightness, combined with strength, a great many of the working parts are forged solid, the weigh bars for working the slides having the levers forged upon them. The cross heads and motion blocks are entirely of wrought-iron and gun metal, and the piston-rods and all the principal working parts are of steel. Each cylinder is complete, having its own condenser, air pump, and feed and bilge pumps. The engines are reversed by means of a small steam cylinder, and there is also a small steam cylinder for the opening and shutting of the main stop-valve of each cylinder. The whole of the gear and pumps are worked from a small shaft in order that the weight might be minimised as much as possible, and the end of the shaft is held by a bracket made of cast-steel. The paddle wheels, which are disconnected, and work perfectly independent of each other—it being competent for one to be working ahead while the other is backing—are furnished with large patent feathering floats. The extreme diameter of each wheel is 24 ft.; the wheels have each 10 floats, measuring singly 10 ft. 6 in. in length, and 4 ft. 9 in. in depth. Every float is bound with strong iron, and strengthened by several iron bands. A large wrought-iron beam between the paddle wheels carries the gear for working the floats. The steam is obtained from four boilers, each of which is 15 ft. diameter and 19 ft. long; each boiler is fired from both ends by means of six furnaces, the total number of furnaces being 24, with eight stoke holes. The furnaces are each 3 ft. 10 in. in diameter and 7 ft. 6 in. in length; the furnaces have an area of grate surface of 650 square feet, and of heating surface of 1350 square feet. The heaviest castings in connection with the engines were the cylinders, which weighed 11 tons each, and were cast by Mr. William Black, North-Eastern Foundry, South Shields. The boilers have a working pressure of 90 lbs. to the square inch, which is fully maintained when the engines are running at full speed, or 40 revolutions per minute, the consumption of coal being at the same time at the rate of 6 tons per hour. Each boiler is furnished with a donkey engine, the whole of the donkeys being connected, so that if there is steam in one boiler any of the others can be filled from it. The steam dome is placed on the top of each boiler. There are four chimneys, oval in shape, and measuring 9 ft. by 4 ft. 6 in. sectionally. Upon the saloon decks, amidships, is a raised deck, a sort of enlarged bridge, upon which is situated the steering apparatus and the compasses. The express is steered by Mr. Brotherhood's patent steam steering gear, supplied by Messrs. Brotherhood and Hardingham, of London. The apparatus is very ingenious, and is worked by means of a small steering wheel, which one man can manage with as much ease as if it were only a small sculler boat he had to guide. It may be added that the Express is fitted with patent windlasses and winches, worked by steam power, and has provided four lifeboats. The whole of the upper surface of the superstructure is reserved for passengers, and the lower deck at the ends of the vessel, and the narrow strip at the sides is reserved exclusively for the sailors to navigate the steamer. There are no holds in the hulls of the vessel save the space necessary to carry the bunker coals.

In the trial on Saturday the results obtained were all that could be desired. As soon as she had got out of the Tyne into the open sea the tugs were cast off, and the engines set away at full speed for a run over the measured mile. When fairly under way at full speed, the Express soon proved herself to be not only an easy-going sea boat, but also a swift traveller. There was a ground swell running on the coast which gave a perceptible motion to the vessel, but the movement was at once easy and free from any unpleasant heaving, so often felt in boats of ordinary build, while she was free entirely from any pitching. The engines, though at full pressure, indicating nearly 4200 horse-power, worked with perfect smoothness and regularity, testifying to the carefulness of their construction, and the high finish given to them. After four hours over the measured mile between Whitley and Hartley—which showed a mean speed of over 14 knots—the steamer was taken for a straight run northwards as far as the Coquet Island, with the view of testing what rate of speed would be occupied in the run home to the Tyne, so as to form an opinion as to the time that would be consumed in the passage of the English Channel. The distance from the Coquet to the Tyne is 22½ miles, whereas that between Dover and Calais is 21 miles. The run southward was in the highest degree satisfactory and successful, the Express running smoothly along, exhibiting excellent steering capacities, and cutting through the water cleanly. The time occupied in the run home was 1 hour 21 minutes, which gave a mean speed of 14.48 knots, which is equal to 16.6 miles. The comparative value of this result may be judged when the average run across the Channel is 90 minutes, and the quickest run that has been made is 80 minutes. From this it will be seen that the Express on Saturday achieved a greater distance by 1½ mile in only a minute longer than the shortest time by the ordinary Channel steamers. It is confidently anticipated that when in regular work across the Channel a speed of 16½ knots per hour will be attained, so that the sea passage will be made in very little over the hour.

THE MANUFACTURE OF STEEL.

Mr. JAMES RILEY, of the Landore (Siemens') Steel Works, gave a lecture at the Bristol Trade and Mining School, on Monday, on the Manufacture of Steel. Mr. W. PROCTOR BAKER took the chair, and in introducing the lecturer said those of them who were fortunate enough to have been present at the last monthly lecture by Mr. Colquhoun (reported in the *Mining Journal* of Feb. 23 and March 2) would recollect that they had the manufacture of pig-iron under their consideration, and what great stress the lecturer laid upon the manufacture of steel in South Wales in the future, and said that she must rely on that manufacture for the future, as her days for iron were gone by. Here in Bristol, therefore, anything connected with the manufacture of steel must be of the highest importance. (Applause.) Mr. Riley then proceeded with his lecture, and at the commencement said the history of steel was one of great and increasing interest, whether they considered the various processes by which it was produced, the inventors of those processes, or the vicissitudes of fortune through which they had passed up to the present time. Steel, he said, being an alloy of iron and carbon, the aim of the manufacturer was to obtain the alloy with such proportions of each as shall be best fit for the purpose for which it was intended. The lecturer then passed on to describe minutely and in a highly interesting and instructive manner the different processes, past and present, by which steel was produced. He said, before the extensive adoption of the Bessemer and Siemens-Martin process steel was a very costly material to purchase, and was produced in comparatively small quantities for special purposes, which were restricted within very narrow limits. Now there were works in this kingdom alone equal to a production of something like 700,000 tons of Bessemer and 250,000 tons of Siemens steel per annum, whilst the use of the products of these processes were becoming every day more and more extensive and varied. The railways of the world were now largely made of these metals, as were also large portions of the engines, carriages, and wagons which run upon them. The same might be said of the vessels of the Royal and merchant navies, the engines by which they were propelled, and the boilers in which steam is generated for them. Not only in the art of peace did they find the use of steel largely and rapidly extending, but also in that of war; for not only were rifles made of it, but in the guns of heavy calibre, the shells to be fired from them, the carriages on which they

were placed, the racers or railways on which they were mounted and trained, and even the armour-plates of vessels at which they may be fired, steel was now rapidly taking the place of iron. If, then, it was interesting to them to know something of the older and more limited methods by which steel had been and was still produced, how much more important was it that they should have that knowledge regarding the more modern and extensive processes? Mr. Riley then described the Bessemer and Siemens-Martin processes, and concluded by indicating some of the effects of the foreign substances which the steel manufacturer had to contend with in the product of steel, and said manganese was looked upon as a very useful metal as an alloy to help him over his difficulty, and chromium had lately been mentioned as imparting useful qualities to steel. His experience taught him that steel, with (say) 0.2 of chromium, made very good cutting tools, but beyond that he could say very little of the properties of the steel in which it was found. At the end of his lecture Mr. Riley was accorded a hearty vote of thanks. —[We shall take an early opportunity of publishing a lengthy abstract of Mr. Riley's paper on the Manufacture of Steel in the *Journal*.]

THE UTILISATION OF HEAT AND OTHER NATURAL FORCES.—Dr. Siemens, C.E., F.R.S., in a lecture at the Glasgow Science Association, explained our sources of heat and force, and pointed out that our coal supply must become exhausted, not indeed in our lifetime but in that of some of those who succeed us. It behoved us, therefore, to consider what we would have to fall back upon. For all practical purposes we depended upon the solar ray, past and present, but the sun was not our sole source of energy, as the tidal wave represented a vast available amount of energy. Passing on to allude to the attempts made to utilise heat, &c., Dr. Siemens showed that the best steam-engines now constructed were capable of realising 2.9ths of the heat generated in the combustion of fuel under the boiler, whilst the remaining 7.9ths formed the margin for future improvement—a large margin, it must be owned, and one that could be dealt with only by increasing the range of temperatures, the most perfect engine being one in which the temperature ranged from that produced in combustion, say 3000 Fahrenheit, to the minimum temperature producible in a condenser. In the consumption of fuel in smelting and reheating metals and other substances there was also much room for improvement, and ultimate economical results could only be looked for when the several operations now employed were replaced by a direct or single process of conversion. The utilisation of the tidal wave would be both costly and restricted in its application. But there was also available the energy derivable from the solar ray from day to day, and the natural effects of these rays—such as rain, wind, and storms—had not yet been utilised, except to a very small extent; and it seemed not improbable that these natural forces would yet again be resorted to simply on account of their comparative cheapness and convenience of application. In order to utilise these natural forces at distant towns and centres of industry the electric current might be resorted to. By means of experiments the lecturer showed that the amount of mechanical force recoverable from a dynamo-electric machine was equal, or nearly equal, to one-half the force expended in the original production of the electrical current; and he also illustrated by experiments the great illuminating and heat-generating power of the electrical conductor. There were, he stated, many other ways of utilising solar energy.

CAGES OF COLLIERY HOISTS.—The invention of Messrs. WOLSTENHOLME and WOODWARD, of Radcliffe Bridge, Lancashire, consists in an improved apparatus for arresting the descent of the cage when the lifting rope breaks, and it is applicable to those hoists in which wire-ropes are used as conductors instead of the ordinary wood guides. The improved apparatus consists of a pair of steel grips with teeth fitting in boxes on each side of the wire guide ropes; these grips are hinged to links connected below to levers fixed on short shafts passing through the ends of the cage; to these shafts are also fixed levers connected to the side bolts, to which the lifting rope is connected. When the cage is suspended to the lifting rope, the side bolts and levers draw the grips asunder and clear of the wire guide ropes; but when the lifting rope breaks the side bolts drop by their own gravity, and the grips are instantly bound against the wire guide ropes by springs acting on the levers above referred to. The invention is applicable to colliery hoists, and to other hoists in which a movable cage with wire conductors is used.

THE ECONOMY OF RED CHARCOAL.

During the past quarter of a century the use of semi-burned charcoal, or red charcoal, has been extensively used in Belgium, France, and parts of Germany, and its economy as compared with fully charred coal has been thoroughly established. There is now a probability of its becoming known in England and America, an interesting paper on the "Economy Effected by the Use of Red Charcoal" having been read by Mr. BERNARD FERNOW, late member of the Forestry Department of Prussia, at the recent meeting of the American Institute of Mining Engineers. Until the researches of Sauvage and Berthier, some 30 years since, there had been no actual improvement for some 2000 years at least, the process described by Pliny, known to the ancients long before Christ, and practiced in all countries, having remained almost entirely without modification.

The experiments made by Sauvage showed that a perfectly charred coal does not give the largest quantity of combustible matter in the smallest volume, but on the contrary, that this relative quantity increases to a certain point of the process, and then begins to decrease. He found that at the end of 5½ hours he had attained the greatest yield of combustible matter, that the water and acetic acid are evaporated, and that the product is an imperfectly charred coal of a dark red or brown colour, whence the names *charbon roux* and *rothkohls*. Practically, 100 kilos. of air-dried wood may be said to contain 40 kilos. of carbon, 40 kilos. of water chemically combined, and 20 kilos. of hygroscopic. Computing the centigrade heat unit of carbon at 8080, and deducting for the evaporation of 60 per cent. of water 32,400 heat units this compound of combustible matter will be found to contain 290,800 effective heat units. From this there can be got, if hard wood be treated in an oven, from the charcoal—26 kilos., at 7640 heat units, 198,640; tar, 7 kilos., at 4547 heat units, 31,829; and from concentrated acetic acid 2½ kilos., at 3213 heat units, 8003; together, 238,472 heat units. Therefore, to make up the original 290,800 heat units the difference, 50,328 heat units, must be reckoned as lost in the gases during the process. In the production of red charcoal this last amount is retained, and the acetic acid is removed, so that 40 per cent. of combustible matter which accompanies the customary methods of charcoal burning over 30 per cent. are saved, and made available as heat-producing material since the red charcoal affords—from the charcoal, 198,640 heat units; from the tar, 31,829 heat units; and from the combustible gases, 50,328 heat units; together, 280,797 heat units. In other words, the red charcoal retains 96.56 per cent. of the heating value of the wood, whilst the ordinary charcoal represents only 69.00 per cent. since the value of the gases lost is equal to 17.24 per cent. of the raw material, representing one-fourth of the value of the charcoal, and to this must be added the heating value of the tar gases, 10.345 per cent. of the raw material, or 15 per cent. of the charcoal.

That it is more profitable to preserve this heating capacity in the fuel itself than to conduct the charring so as to waste and injure the fuel in order to obtain the gaseous products for other purposes, experience has proved in most parts of Germany, and would be still more apparent where, from the absence of good roads, the transportation of cheap products would consume all the profits. The weight of the fuel, on the contrary (it being more solid than common charcoal), increases over 30 per cent. by gaining over 30 per cent. heating power, and there is a gain of nearly 10 per cent. in material which, in the transportation of the more friable common charcoal, is lost as dust. This gain is made, moreover, without any extra expenses except in the first cost of the plant. It appears that some of the charcoal furnaces at Lake Superior employ coal not completely charred, and obtain unusually good economy of fuel. Perhaps it will be found that they have stumbled upon an imperfect *charbon roux*, and that by its more systematic use they could achieve

still better results. Another fact which points in the same direction is the common practice at American charcoal furnaces of throwing in at the tunnel head not merely half burned brands but wood. It is probable that the latter becomes red charcoal before reaching the tuyeres, but the economy of performing the charring in the furnace may be doubted for several reasons.

In the discussion which followed the reading of the paper the President remarked that he had seen wood charged in Canada with charcoal blast furnaces to the extent of half the fuel, and referred to figures which had been brought before the Institute some 10 years ago, showing that this practice secured increased economy. An enquiry was made by Mr. W. C. Kent as to whether the retention of the tar and other hydrocarbons would not make the fuel analogous to bituminous coal. Mr. Raymond considered the favourable experience at Lake Superior removed any doubts on that subject. Altogether the manufacture of red charcoal seems likely to attract considerable attention from the commercial as well as from the public advantages offered.

FOREIGN MINING AND METALLURGY.

The chief feature of the Belgian coal trade is its extreme quietness. In default of active sales the various coalowners' associations are occupying themselves with questions of high interest, as well as with the consideration of the reforms which it may be desirable to introduce in various departments of the Government. Thus a meeting, presided over by M. Hardy (Chairman of the Coalowners' Association of the Couchant-de-Mons), and at which all the coal basins of Belgium were represented, urged the establishment in Belgium of a special Ministry of Commerce and Industry. In support of this proposition it was argued that everything was now in a very chaotic condition from an administrative point of view in Belgium. Thus questions relating to agriculture and industry were now dealt with at the Department of the Interior; one had to go to the Ministry of Foreign Affairs in dealing with matters relating to both internal and external commerce, while mines were dealt with at the Ministry of Public Works, together with railway and naval matters.

The question of the improvement of navigable communications, and also the question of canals, continue to occupy a good deal of public attention in France. Canals have been proposed from the Oise to the Seine, via the valley of Montmorency, from Boulogne to St Omer, and from the Seine to the Mayenne; this latter canal would improve communication with the industrial valleys of the Seine-Inférieure. It is further proposed to extend the canal from the Nord to Rouen as far as Tancarville by means of a canal lateral to the Seine. Various other canal works have also been proposed, but nothing authoritatively definite has yet been determined upon with respect to them. The object which industrials have in view in discussing the navigation question is of course to check foreign competition, which sometimes proves successful in France from the absence in some localities of easy means of moving coal from point to point. As regards the French coal trade, it may be said to have become more quiet than ever, while there is scarcely anything to report with respect to it.

There has been rather more doing at the Belgian works during the last few days. Orders have come forward more freely, while pig maintains itself with firmness. Upon the whole, there has been an evident improvement, but the question of course is—"Will this improvement be maintained?" It is possible, of course, that the improvement is that which sets in every year with the advent of spring, when work is resumed in connection with railways, bridges, and private houses. The Acoz Forges Company has resumed the manufacture of girders which it abandoned about a year since at its Chatillean rolling mill; the number of puddling-furnaces in operation at the company's works is now 25, while the number of reheating furnaces at work is 7. It had been expected that the Rodange Works would be brought into activity by April 1, but it appears that the date for re-lighting has not yet been definitely fixed. It appears that the abandonment of steam traction on the South Parisian tramways is attributable more to an absence of a satisfactory understanding between the company and its general contractor than to any other reason. Both in France and Belgium considerable attention is still being devoted to the development of steam traction on tramways. With this object it may be incidentally mentioned that a small locomotive with a vertical boiler is being constructed at Liège by M. Tilken-Mention.

In the French iron trade industrials appear to be rather more satisfied than hitherto. At Paris especially sales have been resumed with some activity. Paris remains the great consuming centre *par excellence*, and building operations are now being prosecuted with considerable activity. All special iron for building purposes now finds a ready sale upon the Paris market. The Maubange Forges Company have contracted to supply the Northern of France Railway Company with 80 turntables for 5342l. The Marquise Company has also contracted to supply 80 turntables to the Northern of France Railway; the contract price in this case is 5393l. It is reported that M. Gustave Dumont, forgemaster at Maubange, proposes to establish a rolling-mill for plates; the question, however, appears to be only under M. Dumont's consideration. Two large armour plates were made last week at Creusot for Italian ships of war. The weight of the first plate was 23 tons, and of the other 31 tons. The delivery of these plates has necessitated the formation of a train of 11 trucks specially constructed for the purpose. The armourplating of a ship of war by such plates as these costs about 200,000l.

MINING IN CANADA.—A correspondent, writing from Toronto (March 5) says—"In the *Journal* of Nov. 17 you had a notice of the Frontenac Lead Mine. Since the opening of that mine I have obtained a very much richer mine; it assays \$75 in silver and 500 lbs. in lead to the ton of 2000 lbs. It is called the Croesus Mine, and is in the county of Frontenac. I was in California and Nevada for three years and at Virginia City, yet I think that in the country between the Shoshawinka and Mississippi Rivers, in the province of Ontario, there are as rich mines as in California."

COAL MINING IN AMERICA.—The miners of Maryland appear to be as unreasonable in their demands for wages as those in this country were. At Cumberland the Swanton and Potomac men have resolved not to go to work for less than 55 cents; yet the Hampshire and Baltimore men have been working at 40 cents, and still one man and his buddy (marrow) have in 19 days earned \$88.80 between them, or at the rate of \$2.24 (9s.) per day each for the entire time, and are likely to continue to do so.

RAVENSCLEIFF MINING COMPANY.—We mentioned last week that the letters of allotment of this company had been issued, and that instructions had been sent to the company's representative in New Zealand by telegraph to commence work on their gold properties on Cape Jackson. Mr. Turner, being resident on the spot, has evidently lost no time in carrying out his instructions, as will be seen by reference to another column, in which it is stated that he had already made a commencement. When the prospectus of this company was issued attention was drawn to the very advantageous position in which the company stood in having all necessary machinery ready to be set in motion at very short notice, and a gentleman resident on the spot to commence and superintend the operations. In these respects the statements of the prospectus have been fully borne out by facts, and if in other matters the expectations of the directors shall be as speedily and favourably realised the company has, without doubt, the prospect of a prosperous future before it. Our readers will perhaps remember that the prospectus, which was advertised in our columns, stated that the main features relating to the company's New Zealand gold properties were as follow:—1. The properties lie together, are easily accessible, and held at moderate rentals.—2. The paying character of the reefs has been proved by a series of crushings of a large quantity of stone. The uncertainty, therefore, attendant upon a result calculated from a mere assay of samples is thus entirely eliminated.—3. Much work has been done in opening out the mine, and the portion of the reefs standing between Nos. 2 and 4 levels, from which 2 ozs. of gold to the ton of stone have been obtained, is more or less ready for extraction.—4. No pumping machinery is required in order to keep the mine drained to the depth of about 600 ft. from the highest point of the reef.—5. The quartz crushing and other machinery is in excellent working order, and mining operations can be resumed immediately.—6. Two other reefs besides the one that has been partially explored are known to exist on the properties.—7. The vendors take the greater part of the purchase money in shares, thus evidencing practically their confidence in the paying character of the mine. Now, if the great body of the stone, from a portion of which a crushing of 2 ozs.

to the ton was obtained, shall hold good, it seems likely that early returns of gold will be made. It would seem likely, too, that Mr. Turner would naturally turn his attention, in commencing work on the mine, to this particular section of it, and while it would be imprudent to calculate too confidently on the whole of the stone turning out as rich in gold as the portion of it that produced the above-mentioned result, yet, as the crushing of 160 tons of stone, as at the prospectus state, gave an average yield of 12 dwts. of gold to the ton, while, according to Mr. F. Claudet's assay, several pennyweights of gold per ton were left in the tailings, there seem to be reasonable grounds for anticipating a favourable result at an early date.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has continued idle, owing to the uncertain appearance of foreign affairs. Though prices are affected very little as yet still the enormous loss that would accrue if the present check to business is not soon satisfactorily disposed of must be kept in view. It is, however, impossible that business can suffer the present check long. However, the foreign crisis is arranged there will be ups and downs in prices, for when investors are uncertain what to do now and then a party will gather confidence to deal in some particular security, which is, therefore, likely to rise or fall according as the desire is to buy or to sell it, more than it would in ordinary circumstances.

In shares of iron and coal concerns Benhar, old and new, have each fallen 12s. 6d. per share; Marbella, Ormaiztegui, and Scottish Australian each 2s. 6d. Chapel House shares are firmer, but the 7½ per cent. debentures show no change. The Benhar Company recommend a dividend of 4 per cent., which compares with a dividend at the same rate six months since, but 6 per cent. was paid twelve months since. An extraordinary meeting of Crown Preserved is to be held on March 27. The Stand Lane Colliery is requiring more capital, and has made two calls, each of 5s. per share, payable on April 10 and May 10. The shares (81. each) will then be 90s. paid up, and as there are 20,000 of them the amount thus raised is 180,000. Andrew Knowles and Sons are at 60s. dis. Bilbaw, 27. Bolokow, Vaughan, A, 55½; ditto, B, 38½; and ditto (pref.), 19½. Cannock and Huntington, 8 dis. Cardiff and Swansea, 22s. 6d. C. Cammell and Co., 5½ dis. Chapel House, 55s. to 60s. Crown Preserved, 30s. Darlaston 5 per cent. debentures, 35. East Cannock, 10 pm. Ebbw Vale, 7½. Great Western, 30s. John Bagnall and Sons, 60s. John Brown and Co., 12½ dis. Midland, 40s. dis. Muntz's Metal, 75s. pm. Nant-y-Glo and Blaenau (pref.), 17 to 19. Newport Abercrom, 80s. New Sharncliffe (pref.), 65s. to 75s. Pelsall, 10 dis. Rhymney (new), 5½. Sandwell Park, 12½; ditto (new), 50s. pm. Scottish Australian, 35s. Sheepbridge, 10½ dis. Silkestone and Dodworth, 22½ dis. Spon Lane, 6 dis. Staveley, A, 19 pm.; ditto, B, 48s. 9d. pm.; ditto, C, 79; and ditto, D, 12½. South Wales, 5. The Horsely, 50s. dis. Thorp's Gawber Hall, 50s. to 60s.; ditto (pref.), 10. Tredegar, A, 10½. Vancouver, 20s. dis. Walsall Wood, 50s. dis. West Cumberland, 6½. West Mostyn (pref.), 25s. William Cooke and Co., 31 dis.

Shares of foreign copper concerns have been good. Tharsis mark an advance of 25s. per share, ditto (new) 15s., and Cape 15s. It is generally expected that the next Tharsis dividend will be no less than the former one, while the prospects of this particular business are much better. Huitfall are at 75s. to 80s. Kapunda, 1s. 3d.; New Quibrida, 4½; Panulillo, 2½. 6d.; Rio Tinto, 5 per cent., 55½; York Peninsula, 5s. to 7s. 6d.; and ditto (pref.), 17s. 6d. to 20s.

Shares of home mines firm, but quiet. Glasgow Caradon have been done at a small advance of 6d. per share. The second boring machine is now at work at Derwent Lead Mine, and good progress is being made; the middle vein at the 93 ft. level is worth 1½ ton per fathom, and looking very well. West Tankerville are easier, although the returns for the present month are increased from 35 to 40 tons. Bantleyde are at 4s., 6s. per share, being at the rate of 6 per cent. paid up. Leadhills, 7s. 6d.; Mynydd Iron Ore, 35s.; Penstruthal, 4s. to 5s.; Rhosmor, 80s. to 35s.; South Condurrow, 10½ to 11; West Chilverton, 13; West Tankerville, 12s. 6d.; and ditto (pref.), 25s.

In shares of gold and silver mines there has been nothing doing, notwithstanding that the reports from the various mines are more numerous this week than last. Almada and Tiritio have discovered a new east lode, Providencia, 1 fm. wide, north in east cross-cut from tunnel. The produce of Antioquia in December was 67 ozs. gold from 65½ tons mineral, and a loss of 237l. resulted. In January Chontales worked 12 heads by water power, treating 850 tons quartz, which yielded 285 ozs. gold, at a loss of 107l.; there are 850 tons more waiting at the stamps, and if more heads arrive in time it is hoped next month's return will be a full one. The prospects of Don Pedro are described as very cheering, though the rich course of ore at the bottom of the mine could not be worked through want of drainage; in January the cost was 2847l., and produce 5000 oits. (2125l.), while the clean-up for first division of February gives 2117 oits. The produce of Frontino and Bolivia for December was 497 ozs. gold, from 661 tons mineral, and 335 ozs. gold dust were purchased from tributaries, and the result is a loss of 12l., but better returns are expected for January. The Javali mill worked 25 days in January, crushing 1900 tons quartz, which yielded 577½ ozs. gold, at a profit of 418l.; the dry season has now set in, so there is no hope of working with water till June or July. The clean-up at the Original Amador Mine of London and California for February is estimated at \$5000. This week's Richmond run is \$90,000, and it is announced the coupons and debentures which fall due on March 25 are to be paid. The produce of St. John del Rey for the first division of March is 10,000 oits (3875l.). The results of working at Sierra Buttes Mine for February were—receipts, \$19,341; and total California expenses, \$12,905; and at Plumas Eureka—receipts, \$35,888; expenses \$15,884. Chicago are at 27s. 6d.; Eberhardt, 6; Emma, 1s. 6d.; Flagstaff, 13s. 9d.; Frontino, 30s.; Javali, 6s. 6d.; Pestarena United, 3s. to 5s.; South Aurora, 2s. 6d. to 5s.

Shares of oil companies are very firm. Uphall are 2s. 6d. higher, and Oakbank 1s., while Young's Paraffin are 9d. lower. Bank Hall have been done at 5½ ex div., and Runcorn Soap and Alkali at 7½. The report of Price's Patent Candle Company states the profits for the past year at 37,939l., including 12,417l. brought forward. The dividend on the preference shares absorbs 2101l., and a dividend of 16s. per share, being at the rate of 4 per cent. per annum, is recommended for the ordinary shares, leaving a balance of 5838l. to carry forward. Shares of miscellaneous companies are perfectly neglected. The Birmingham Patent Bolt and Nut Company have announced a dividend of 10 per cent. The second instalment of the London and Glasgow Engineering and Iron Shipbuilding Company's dividend is payable on April 1. The balance-sheet to be submitted at the sixth ordinary meeting of the Diamond Rock Boring Company, to-morrow, shows a loss of 15,702l., after absorbing the reserve of 4000l., consequently no dividend can be paid. The directors propose to issue 15,000l. more debentures to enable them to accept contracts now being offered, both for water-boring and tunnel-driving, from which they would expect more profitable results. The report of the United Limer and Vorhole Rock Asphalt Company states the profit for last year was 4551l., including 56l. brought forward; 1200l. of this is added to reserve, increasing that to 2997l., and the balance is carried forward; but a dividend of 3s. per share can be declared if sufficient debentures are subscribed to meet the revenue used in purchasing the Sicilian Mine. The Val de Travers Asphalt Paving Company's report states the net profit last year were 7422l., including 2760l. brought forward, from which a dividend of 8s. per share, being at the rate of 4 per cent. per annum, is recommended to be paid on April 16, and 3422l. carried forward. Shares of chemical companies steady. Lawes's 7 per cent. (pref.) scarce; Langdale's are 95s. to 100s.; Lawes's, 7½; and Newcastle, 48s. 0d. In shares of Wagon Companies, Scottish are reduced 1s. 3d., and the new shares 6d., but the others show no alteration; Gloucester, at 9½ ex div.; Lancaster 2½; Starbuck, 12½; and Swansea, 2½.

MONKLAND IRON AND COAL COMPANY (Limited).—At the seventh annual meeting of the shareholders of this company, on Tuesday, the report and accounts were unanimously adopted, and the retiring directors re-elected. The revenue account for 1877 shows the debit balance of 6682l. last year now stands at 4232l., which has to be carried forward. The dividend on the preference shares is cumulative, and has to be paid out of profits before any dividend can be paid on the ordinary shares. There is now 11,000l., or 11s. per share, of dividends in arrears on the preference shares. The outlay on works, pits, &c., for the year has been 12,077l., of which 10,000l. is charged to revenue, and this outlay is expected to be considerably less in the current year. During the year debentures bearing 7 per cent. interest have been issued for 7500l., and debentures for 4700l. repaid; the amount issued is 68,559l., leaving 31,441l. to issue. The total indebtedness of the company on debentures, sundry creditors, and bank is 108,350l., while the floating stocks and cash due amount to 79,894l., the difference of 28,456l. being represented by the pig and malleable ironworks, railways, houses, fixed and moveable plant, pits, and mineral leases, which the directors consider ample security, and, therefore, recommend their debentures as a safe investment, yielding a good rate of interest. The Chairman explained that they had, in common with the other ironmasters, limited the production. The directors' fees are 500l. a year, but they consider they save the company in financing more than this sum, so that really their services are got for less than nothing. In addition, they have jointly supported the concern to the extent of 28,800l., without which the company could not have been kept going, and would very likely, through liquidation, have fallen into the hands of a few of the largest shareholders. During the last four years of bad trade this company has been losing every year. During the first three years the average loss was 1400l. a year, and it is an encouraging circumstance to find the loss somewhat lower, at 1000l. There is no doubt as to the great substantial value of this property, and that it will again become a fairly remunerative one, provided sufficient financial support is afforded.

EAST PLYNIMMON.—Owing to the prospect of an improvement in lead, there is again an enquiry for lead mines, and a company has been proposed to work this mine, situated in the county of Montgomery, having Plynlimmon Mine on the west, which is now dressing nearly 40 tons of silver-lead ore per month, and has sold upwards of 4000l. worth of lead. There is only 160 fms. from the drawing shaft of the Plynlimmon to the boundary of East Plynlimmon, and all the levels of the former are driven east, proving good lead to the boundary; indeed, the 24 is on or past the boundary, and proving 2½ tons of lead ore to the fathom. There is an adit level driven at this mine towards the same lode as that of Plynlimmon Mine for 150 fms., but it was not continued far enough. This level is within a trifle equal in depth with the 24 in Plynlimmon Mine, and it is generally considered there are only 10 fms. more to continue, when it will intersect the main lode; also on driving north-east on the course of the lode there will be cross-course, where, according to the best mining authorities, abundant riches may be expected. This mine would not require machinery for underground operations for years, hence a small outlay will suffice in a short time to enter this safe investment on the Dividend List.

WEST WYE RIVER MINE.—This is another mine, which could either be worked separately or in connection with East Plynlimmon, the two mines having a mile and a half on the course of the lode. This mine is on the same lode as that of Plynlimmon and Nantigo, or James Brook Mines, the latter of which is dressing 20 tons of silver-lead ore per month, and has sold over 5000l. worth. There is an adit level driven for some distance, and a shaft sunk for 15 fms., with splendid ribs of lead

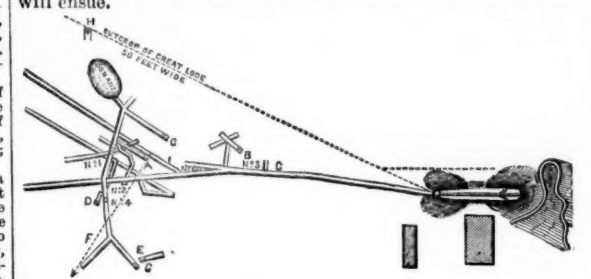
in the bottom, the lode being totally composed of lead, sulphur, &c. With the assistance of a small water-wheel and pumps, the working here would be very economical. The royalty is one-sixteenth.

J. GRANT MACLEAN, Stock and Share Broker.
Post Office Buildings, Stirling, March 21.

TECOMA SILVER MINING COMPANY—No. IV.

We have now the pleasure to supply our readers with a sight of the diagrams representing the property recently surveyed, and we trust the description of the two plans will be found of interest. The first is the working plan of the mine. From the same it will be seen a long and valuable tunnel turns to the left from the mouth, which will be found at the immediate right-hand corner. A little further to the right a winding road in the hill is perceivable, and near by are the tips of the mine, with a blacksmith's shop and ore house to the side thereon. The blocks placed underneath distinguish the general offices of the company, comprising bed-rooms for the miners, superintendent's and assay rooms, as well as a general board house.

The letter G denotes the main tunnel, provided with well laid down tramway. The remainder of the letters, as well as the numbered points, have their significance with diagram No. 2, being the section of the mine. Undertaken thereto are particulars of the numerous shafts, rises, and winzes, as well as certain opened up tunnels, find their place to correspond with their identical numbers. It is not our intention upon this occasion to refer to any but the Raynar Tunnel, which is marked by the letter I, and the bonanza. This former channel was the one which had to be abandoned for want of money at a point where every encouragement was apparent of rich ore being obtained, the production of which has been already 1500 tons of remarkably fine metal. At the immediate end of the dotted lines, and marked H, a fine outcrop was discovered by the company's engineer, Mr. St. Stephens, who in his investigation there came upon a great lode 30 ft. wide, supplying spots of lead and iron. The existence of this confirms in the minds of the experienced that by connecting this outcrop with the Raynar Tunnel no disappointment will ensue.



It appears there is somewhere about 250 ft. to be cut in order to arrive at the afore-named result; and it may not be out of place to mention that on the success of joining this tunnel with the lode thus outcropping about 500 ft. of backs would be gained for stopping purposes. Out of the bonanza, which is situated 80 ft. above the Raynar Tunnel, and connected therewith by a chute of ore, 40 tons of rich silver ore were taken out. The chute as tapped in the Raynar Tunnel yielded about 350 tons of mineral. The following is an extract from the letter of a correspondent:—
"Throughout the workings of the Tecoma Mine a pipe of ore is visible along one side of the inclines, constantly changing in form and width, from a mere thread to 2 ft. to 3 ft. Several pockets of good ore continue to show up. At the bottom of the incline the pipes of ore look strong, and have continued to hold. The ore extracted is a carbonate intermixed with galena, smelts freely, and is highly prized for its fluxing properties."
In an after number of the Journal we shall give a transverse section of the mine.

ALMADA AND TIRITO CONSOLIDATED SILVER MINES.

TIRITO.—Capt. William Clemo, Jan. 25: The stopes in the first lode above the tunnel level, south of the engine-room, has nothing new to report. Our prospecting cross-cut south-east through the south slide at the tunnel level has no change. In the winze in the drive west, from the above cross-cut, the lode has very much failed; we have now suspended it, and are working in the back, where we have a good ball of ore, but it has not the appearance of a thing that will improve or last for any great length of time; we must get further east to find the main body of the lode.

PROVIDENCIA.—The lode in the underhand stopes, below the tunnel level, continues without change. The stopes in the back in this place improves as we rise on it. The end of the 10 north is turning out some very good green ore.

MINA GRANDE.—The west branch has nothing new to notice since last reported on. The cross-cut west at the 7, above tunnel level, appears to be getting near the lode. The winze sinking below the 12 is now down 34 ft. 6 in.; it is now in a disordered place in the lode; the lode appears to have suddenly shot off to the west. We have now cut in after it, and it looks to be improving again, and with better quality ore.

TIRITO.—Feb. 1: The stopes in the first lode above the tunnel level, south of the engine-room, continues without change. Our prospecting cross-cut south-east through the south slide at the tunnel level has nothing new to report. The works in the back of the drive west from the above cross-cut has very much improved since last reported on.

PROVIDENCIA.—The underhand stopes below the tunnel level has been idle this week, as we are now sinking a winze in the stopes to communicate with the 10. The stopes in the back in this place continue to improve, and is producing very fairly for black and green ore. The 10 fm. level north end has now got under the underhand stopes in the Providencia. We have now stopped it, and began to rise to meet the winze sinking in the stopes above. We hope to connect these places next week, when the driving of the end will be resumed.

MINA GRANDE.—The west branch continues to look well 7 fathoms above the tunnel level; the cross-cut west at this level has now cut the west branch, but it is very thin at this point, which is a good bit south of our works at the tunnel level. We are now driving north on it to get over the stopes, when I think to find it as at the tunnel level. The winze sinking in the 12 fm. level has slightly improved in the past week.

TIRITO.—Feb. 8: The stopes in the first lode above the tunnel level, south of the engine-room, has no change worthy of report. Our prospecting cross-cut, south-east from the south slide at the tunnel level, continues without change. The works in the back, in the drive west, from the above cross-cut, appear to be slightly improving as we rise.

PROVIDENCIA.—The underhand stopes has now been resumed, as we have communicated the winze (sunk in it) with the 10 rise. The stopes has no change since last reported on. The stopes in the back in this place continues to look favourable. The driving of the 10 north has been resumed; there is no change to notice.

MINA GRANDE.—The west branch continues the same as last week. The drive north from the west cross-cut at the 7, above the tunnel level, appears to be getting into grey ground. The lode in the winze sinking in the 12 is still very much disordered.

Frank W. Breach, Jan. 25: There is little to mention as regards change during the week. South of the slide in the Tiritio we are still breaking some dole ore, and in the level we are driving east of south, in order to get away from the influence of the dislocation before commencing a main east and west cross-cut. In the 10 north we have met the ore we are sinking in below the tunnel. The ore is like all from the Providencia Mine, of a high ley, and also like it in never being

solid or continuous, bands of poor spar crossing the ore in several directions, but the ground is very cheaply worked. In the new cross-cut west over the tunnel in Mina Grande we have bands of black ore, and daily expect to cut into the west branch.

Feb. 13: You will notice that Capt. Clemo mentions an improvement in the ore south of the slide. The extent of payable ground has increased considerably during the past week, but still it must only be regarded as a deposit under the slide, and not as forming a part of the main course of ore for which we are exploring. The winze sinking in the 12—Mina Grande—is by no means satisfactory; the ground is very disordered by felspar, and I fear that on arriving at the 24 we may have to cross-cut for the ore. Under the circumstances, it is as well that the end in the 24 is stopped until we have better data as to the shortest line to drive the level on.

Feb. 8: There is little to note during the past week. The ore in the Providencia Mine under the tunnel we now know looks down to the 10, and we are opening out at that level for stopping. Next week I hope to send you a sketch of the works south of the slide in the Tiritio, as we have changed the direction of the explorations in favour of a plan, which we hope to make self-supporting at least, if no more.

The directors on the 18th inst. received the following telegram from Mr. Breach: PROVIDENCIA.—New east lode discovered north in east cross-cut from tunnel; width of new east lode (Providencia), 1 fm. Ley of ore high; coppery; black; looking well; raining.

ECHOES FROM THE MINING MARKET.

The late advance in the tin standards has been almost wholly lost, and no more than 35l. to 37l. 10s. per ton can now be realised for the produce of our best mines. This compares with 90l. to 95l. only four years since, a difference to such mines as Carn Brea, D. J. Scott, and Tincroft—the first-named of which raised and sold (as we have seen) over 300 tons during the last quarter—amply sufficient to explain the gloom that has again settled upon the tin mining market. The outlook is not very encouraging, especially as the wool ships are still bringing over colonial tin all the way from Australia to London for the nominal freight of 1s. per ton, and supplies do not decrease to any appreciable extent. The chief grounds for hope so far as holders of shares are concerned lie in the active response of the market to any upward movement in the Cornish standards, for this betokens vitality which it is evident still survives. There is also undoubted proof that the hard lessons of adversity have taught our mine managers to be more economical, and that, thanks to the improvements that have lately been introduced, foremost amongst which stands machine boring, the mines are worked at a less cost than four years ago, and that, consequently, a rise in the price of tin ore to only 50l. per ton would enable several of our tin mines to return to a period of actual prosperity.

Lead shares have been in good demand, but the most prominent feature of the week has been the advance of 3l. per share in East Van. The rise is certainly not justified by the report of this week received at the company's office, but the shares are so firmly held that any exceptional demand causes a more substantial advance than would otherwise occur. The allotment of D'Eresby Consols shares took place early in the week. Accounts state that the mine is improving in appearance every foot that is driven. The shareholders have an excellent prospect before them.

Some little stir among the persons interested was caused on Thursday by the announcement in a daily paper of a rise of 3½ in the shares of Grogwinion. Consequently when brokers and others who received orders to realise had to explain that the reported rise was an error, and probably arose from the advance in East Van being mixed up with the Grogwinion quotation, some disappointment was felt. Yesterday (Friday) the same paper in which the "advance" of 3½ was reported, to square the quotation with the actual one, gravely announced that a "fall" of 3½ per share had taken place. It would have been better to have explained the blunder frankly instead of reporting a rise and fall which never actually took place. We can state from our own experience that some country shareholders were very much misled by the two announcements.

Tin shares, as might have been expected from the duller appearance of the metal in London, have been very quiet. We are able, however, to record an advance of 1l. per share in South Condurrow (11 to 11½). As a rule, most other tin shares have been quiet. At Grenville a call of 6s. per share has been made. In copper mines, Mellanar have advanced 10s. to 15s. per share (4 to 4½), whilst Parya Mountain keep quiet but firm at 9s. to 10s. Devon Consols are weaker at 2½ to 3. At Wheal Bassett a call of 2l. per share has been made.

In Colliery shares, Chapel House advanced ¼ (2½ to 2¾), but Cardiff and Swansea on the other hand have receded ¼ (½ to 1). There is still 1l. per share to be called up on these shares, and it will be wanted.

In foreign mine shares some enquiry has existed for Huitfall. Richmond close firm at 9½ to 10. JAMES H. CROFTS.

THE WEEK.

SATURDAY, MARCH 16.—The prospect of a 2½ per cent. dividend lent some joy to speculators in North British that at the commencement of business transactions in the stock took place at 87½, last night's closing price being 84½. A year ago the dividend was 4 per cent., but the last half was only 2 per cent., consequently the rate for the year is 2½ per cent. To some people the stock seems absurdly high—others justify the price because of the future prospects. The last price was 85½ to 85½. Tincroft fell 10s. (10½ to 11), and East Van 5s. (3½ to 3¾). Alamillos, 1½ to 1¾. Laurens, 4½ to 5½. Caron, 2½ to 2¾. Wye Valley, 1½ to 2½. Eberhardt and Aurora, 5½ to 6½. Pestarena United, ¾ to 1. Flagstaff, ¾ to 1.

MONDAY.—East Van shares were very firm to-day, and 10s. higher, while indications were not wanting that a further rise may take place. The closing price was 3½ to 3¾. Roman Gravel, 8 to 8½. Tankerville, 3 to 3½. Great Laxey declined to 20½, and Tincroft to 10½. The last advices received from the Frontino Mine show that the monthly working resulted in a small loss. Shares are neglected. Van, 25 to 27. Van Consols, ¾ to ¾. Wheal Grenville, 2½ to 3. Penstruthal, 5s. to 5s. Telegraph securities have fallen all round since last noticed, and are now quoted thus:—Anglo, 61½ to 62; Brazilian, 6½ to 6¾; Cuba, 9½ to 10; Direct, 15½ to 15¾; Eastern, 7½ to 7¾; Globe, 5½ to 5¾; Silver, 2½ to 2¾; Construction, 28 to 28½; Panama, 2½ to 2¾.

TUESDAY.—East Van had a further important rise to 4½, 4¾. West Chilverton was dealt in at 13, closing 12 to 14. Frontino shares fell 5s., to 1¼, 1½. The allotment of shares in D'Eresby Consols took place to-day, and it was understood that the applications were quite equal to the number at disposal. The week's run at the Richmond Mine is announced as \$90,000. North British, 85½ to 85¾. Caledonian, 11½ to 11½. District, 57 to 57½. Business was marked in Honduras at 3½. At the Lanrwst meeting the report was adopted; shares continue in demand.

WEDNESDAY.—At the commencement of business 4½ was offered for East Van shares, and soon after 5, but very few shares could be bought. Buyers then boldly bid 6, and ultimately increased their offer to 7, at which some shares were changed hands. A relapse to 6½ followed, but the closing was firm at 6½, buyers. Some transactions were done at top prices for time on showing confidence in the rise being maintained. In the foreign department the chief feature was the heaviness of Turkish 1854 and 1871 Loans; the first fell 2½ (52 to 54), and the other 1½ (33½ to 34); Egyptian Preference, 54½ to 55½; Unified, 29½ to 30½; Russian, 1873, 83½ to 83¾; Caledonian advanced 1¼, to 11½.

THURSDAY.—East Vans after being quoted 6½ to 7 finally closed 6 to 6½. A good many enquiries were made for Abernethy shares, and they were quoted 6s. to 6s. Credit A. recovered the late fall, and were dealt in at 1. Chillington 3½ to 3¾; Rhymney Iron, 17 to 18; Pelsall Coal, 3 to 3½; Eley, 3s. 6d., 29 to 31; United States Rolling Stock, 13 to 14; Westminster Brewery, 4 to 4½; Tiverton Brewery, 4½ to 5; Royal Aquarium, 2½ to 3; Ottago Investment, 1½ to 1¾; Railway Debenture Trust, 7¼ to 7¾; ditto Share Trust, 6¼ to 6¾. A monthly profit of 324l. was announced by the Santa Barbara Mining Company. No change was made in the Bank rate, but the weekly return showed a decrease in the reserve, as has been the case for some weeks past.

FRIDAY (Opening).—East Vans shares are quoted same as last night—6½; the weekly report mentions that the lode has been driven through, and the two last fathoms shows "sinking work." Van, 24 to 26; West Chilverton, 12 to 13; South Condurrow, 11½ to 11¾. West Wye Vans, 3½ to 3¾; West Grenville, 3 to 3½, which includes the call of 5s. Consols are slightly higher. Egyptian Preference on a Unified have each risen ¼. Two o'clock.—Consols are 95½ to 95¾, or ¾ better than last night. Russian, 1873, show a rise of ¾ (84½ to 85¾), but the market is not very active. British, Great Eastern, and Caledonian are now the same as last night. D'Eresby Mountain, 55 to 55; Herodfoot, 7½ to 8; Great Laxey, 19½ to 20½; Grogwinion, 3½ to 3¾; Leadhills, 3½ to 4; Tankerville, 3½; Roman Gravel, 8 to 8½. Four o'clock.—The markets closed without any animation. East Van were offered at the last. It is announced that the scheme for reducing the 10l. shares of the International Finance Company to 8l. 10s., with 3l. 10s. paid, has been carried through. National Discount shares are weak at 9½. Don Pedro, 10s. to 12s. 6d.; Lanrwst, 2 to 2½; Caron, 2½ to 2¾; Chapel House, 2½ to 3½; Newport Abercrom, 4 to 4½. FREDERICK R. KIRK.

TYN-Y-FRON continues to open out well, and the future is fraught with the liveliest promise. There are several advantages associated with this mine which tell favourably. In the first instance, the lodes are discovered, laid open, and proved to be productive of blende, copper, and lead in paying quantities, and for 75 to 80 fms. in length. Secondly, the operations are being carried out by an adit level, which gains further back to the extent of 75 up to 80 fms., while the forelevel carries a leader of lead ore from 4 to 8 in. wide, with a strong mixture of blende throughout the lode. Thirdly, there is a never failing supply of water capable of drainage, discharge of ore and debris from underground to surface, dressing and manipulation of all ore for market, and the absolute dispensance of all fuel in respect to machinery—an item of vast import and economy in mining costs. Fourthly, the lodes have the most favourable analogy of profitable surrounding mines—as, for instance, Ystumetan, Bwlch Gwyn, Llywnterfy, Temple, Great West Van, Caegyon, and Rhedol, all stretching to the east and west, while the north and south parallel contain the Lieburne Mines (the richest prizes of modern date in Cardiganshire). Powell Consols, Caenant, Pencaergidd, Bwlch, East Darren, Cwm Erfin, Llancwmbach, Eagle Book, Blaen Caelan, Cambrlan, and many others, while the strata are most congenial for the existence of lead in bulk, being highly crystallised and decomposed in character and mineral-carrying properties. Fifthly, the company is capitalised to the extent of 10,000l. only, in 10,000 shares of 1l. each, and fully paid-up. Sixthly, the roads are good and easy to the shipping port of Aberystwyth, the royalties only 1½th, and the cost of development will prove light, and the time comparatively short, when regard is paid to the many important points in prospective realisation. Next, the prospects involve minimum risks; the shares are fully paid up, and are marketable at 30s. to 40s. each.

In the High Court of Justice, on Saturday, Vice-Chancellor Hall granted an order, in compliance with a creditor's petition, for the winding-up of the Hafod Lead Mining Company.

MORE CURES (THIS WEEK) OF COLDS, COUGHS, ASTHMA, TIGHTNESS OF CHEST, BY DR. LOCOCK'S PULMONIC WAFERS.—From Mr. Fell, Chemist, Dewsbury:—"Having had occasion to use Dr. Locock's wafers myself for coughs of chest, I found them answer admirably, and I hear the highest eulogium from others, who have tried them for coughs, asthma, &c., &c. They taste pleasantly. Price 1s. 1½d. and 2s. 2d. per box.

The Yniseedwyn Company, Limited.

REGISTERED UNDER THE COMPANIES ACTS, 1862 AND 1867.

CAPITAL £60,000, IN 6000 SHARES OF £10 EACH.

£2 per share payable on application; £3 per share on allotment, and the remaining £5 per share in two instalments of £2 10s. each, at three and six months from allotment, when all liabilities will cease.

GEORGE GOWLAND, Esq.
W. H. LETHBRIDGE, Esq.

DIRECTORS.

JOHN ROMANES, Esq.
P. W. SYDENHAM ROSS, Esq.

NICHOLAS SADLER, Esq.
(With power to add to their number).

BANKERS—THE IMPERIAL BANK (Limited), Lothbury, London, E.C.
SOLICITOR—ALEX. KERLY, Esq., Great Winchester-street, London, E.C.
AGENT—Messrs. LIVINGSTON, RICHARDS, and BEAUMONT, Swansea.

SECRETARY AND OFFICES.

W. H. HARRISON, Esq., 1, PALMERSTON BUILDINGS, LONDON, E.C.

This company is formed for the purpose of purchasing and working the well-known Yniseedwyn and Abercave Collieries, as well as the Yniseedwyn Steel and Iron Works, situate at Yniseedwyn, about 13 miles from the port of Swansea. The works are connected with the Midland, the Great Western, and London and North-Western Railway (having their own branch railways and sidings, all of the standard gauge, capable of accommodating at least 1000 railway trucks at one time), and are thus in direct communication with all parts of the kingdom. This extensive property (over 3500 acres of minerals, about 400 acres of surface, including several farms, a number of cottages, a mansion and agents' houses) is held upon exceptionally favourable terms, under various leases, particulars of which may be seen at the offices of the solicitor.

There are four large collieries, fine iron and steel works, together with a good-sized foundry, and altogether a most efficient plant. The Four Collieries are all extensive, and contain six seams of the purest anthracite coal, with an aggregate thickness of about 25 ft., and are estimated to contain 37,000,000 tons of workable coal. One of the seams (the celebrated Big Vein) is over 9 ft. thick. There are also veins of ironstone and fire clay, limestone, &c., all of which are elements of considerable value. The collieries are complete with the most costly plant, engines, boiler power—in fact, no outlay has been spared to bring the whole into the highest degree of perfection. From the pits an aggregate of at least 2000 tons of coal may be produced daily.

The Iron Works are among the oldest, if not actually the oldest established in the kingdom, and everywhere well known as the Yniseedwyn Anthracite Iron Works. They consist of two blast furnaces, hot blast stoves, and complete plant. The furnaces were recently fitted and remodelled on the most approved principles, have been worked most successfully, producing a larger annual yield of iron per furnace than has been obtained by any other furnaces in this country using anthracite coal.

The two blast furnaces have not only produced pig-iron of the highest quality suitable for steel making purposes, but also spiegeleisen up to 17 per cent. metallic manganese, thereby far outstripping any of the German or other foreign manufactures, and commanding the highest prices in the market. This, of course, is the best test of any, and it is, therefore, scarcely necessary to refer to any other, but it may be worth while to mention that the trials of this iron under Mr. Kirkaldy's great breaking machine, at Southwark, gave some of the best results ever yet afforded with pig iron.

Yniseedwyn iron is in great demand for tin plate works, and South Wales being the chief seat of the tin plate manufacture, the works are much more favourably situated for supplying the pig iron required than the hematite furnaces of Barrow and elsewhere. The Steel Works have been built under most elaborate designs, and in a most costly manner, but are not yet quite completed. They will require an outlay of between two and three thousand pounds to get into operation. It should be understood that the steel made is not the common steel of the Bessemer or Siemens process, worth from £4 to £10 per ton, but Sheffield tool or cutting steel, worth £20 per ton, or even more, in samples of exceptional excellence. The trials of samples of this steel, submitted to Messrs. Robt. Hadfield and Co., the large steel casting company in Sheffield, realised results never yet obtained by either Swedish or Russian steel and in their printed report it is stated that if only equal quality could

be maintained, a full market and high prices were secure. As this steel process is founded on purely practical, though at the same time scientific principles, there should be no difficulty in ensuring the like results from using the like materials the great point being the purity of the fuel, as it is not difficult to purchase fairly good iron ores. Pure fuel, however, is of a most exceptional occurrence, and now that steel is pretty sure to supersede iron for many purposes, it is likely more than ever to command a high price.

Apart from the profit likely to be derived from the development of the steel manufacture, and reckoning only upon a restricted output of coal and a moderate make of iron, the profit may be fairly estimated as follows:—
150,000 tons of coal, at 1s. per ton ... £ 7,500 0
15,000 tons of iron, at 6s. 2d. per ton ... 4,131 17 0
Equal to ... £11,631 17 0 per annum.

This amount of profit would after payment of charges of all descriptions, admit of dividends at the rate of about 14 per cent. on the capital of the company.

That profits to the amount named are the least which may be calculated upon is clearly indicated by careful reports, based upon data afforded by the raisings of coal at these collieries for some years, according to which the cost of working a fair quantity of coal would be from 4s. to 4s. 5d. per ton. The numerous orders now in the hands of Messrs. Livingstone and Co. may be taken as a proof that 5s. 6d. to 6s. 6d. per ton may be realised. At the Iron Works an average of over 12,000 tons per annum was produced at a profit of about 9s. 2d. per ton, and during September, 1876, the average cost of making 1153 tons of pig iron was 63s. 9d. per ton. It is calculated that iron can now be made at Yniseedwyn for under 61s. per ton, and as the cost of labour and material is considerably lower than in September, 1876, when iron was made for 63s. 9d., it will be seen that this estimate of cost is not only well founded, but may be said to be outside one.

From enquiries made at the offices of some of the best firms in South Wales, it has been ascertained that there would be no difficulty in obtaining a ready sale for all the iron which can be turned out at from 71s. to 73s. per ton.

An estimate of the value of the property may to a certain extent be formed from an extract from the balance sheet of the last owners (which will be found with the prospectus), showing the outlay made upon the plant and from the valuations of Messrs. Daniel, who deservedly occupy a very high position as engineers in South Wales. These afford sufficient evidence of the great worth of the property and the very reasonable terms upon which it has been acquired. The valuation of Messrs. Daniel was (as a reference to their reports will show) £137,472. The plant and machinery are so extensive, and in such perfect working order, that little, if any, expenditure will be required upon them; and, as payment for coal sold will be immediately forthcoming, only a small working capital will be found necessary. To provide against contingencies it has, however, been deemed prudent to reserve a sum of 10,000l., which will allow of a sufficient working capital for all purposes.

These properties possess exceptional advantages, which will enable profits to be realised in bad times, when others not so well circumstanced can only be worked at a loss.

Prospectuses may be obtained on application at the offices of the company, and at the solicitors, where copies of the contracts for the purchase may also be seen.

ECONOMIC TREATMENT OF COPPER ORES.

An invention which relates to a method for effecting the extraction of copper contained in what are known as cupreous pyrites or as iron pyrites containing a small quantity of intimately mixed copper sulphide or of copper compound or compounds, such pyrites being either those or similar to those pyrites containing copper which occur in the Rio Tinto and Tharsis Mines, in the kingdom of Spain, and in the San Domingo mines and districts, in the kingdom of Portugal, has been patented by Mr. JAMES MASON, of Enysnam Hall, near Witney, Oxfordshire, which consists in subjecting the pyrites either in its natural condition, or either broken or subdivided, and placed in heaps, mounds, or piles to the combined or to the alternate action of atmospheric air and of water in order that certain compounds of copper which before such treatment were insoluble in water shall by such treatment be in part or entirely converted into a soluble form, and in such condition be extracted by means of the water employed. The solutions or liquors containing the soluble compounds of copper thus resulting may then be submitted either to a cementation process, in order that the copper may be separated therefrom, or any other method for effecting the separation or utilisation of the copper, or of the salts or compounds of copper, may be adopted.

In carrying out the invention Mr. Mason prefers that the pyrites should be placed in heaps or mounds, and that they should be so arranged as that the atmospheric air and the water should have free access thereto—that a current of atmospheric air should pass from the lower to the upper and lateral portions of the mound or heap, and that the water should be caused to flow or trickle over the surface of such ore or ores from above downwards. Pyrites having thus been treated will be found applicable for the production of sulphurous acid in the manufacture of sulphuric acid, and may be employed in a manner similar to that in which crude pyrites or pyrites derived from similar sources are now employed.

TRANSMITTING COMPRESSED AIR.

It has been found desirable in transmitting power to machines moving over short distances to convey such power, whether it be steam or compressed air, through flexible tubing, and, with a view to facilitate the necessary connections between the stationary source of the power and the moving machine which utilises such power, some ingenious improvements have been invented by Mr. T. F. ROWLAND, of Green Point, Brooklyn, U.S., which consist in an automatically moving drum, carrying a flexible tube, through which power is communicated, and an apparatus for automatically winding and unwinding such tube. Around a drum, by preference hollow, is coiled a flexible tube and also an unwinding cord. This drum is supported on a hollow centre pivot, which is supported by a beam, and ends in a solid rod. The pivot tube after entering the drum turns at a right angle, and is carried to the periphery of the drum by means of a tube. To the end of this tube a flexible hose is attached. The other end of the tube carries a packing sleeve, through the centre of which passes the stationary tube in such a way as to make a tight joint between the revolving tube and the stationary tube, while at the same time it allows the tube to revolve freely around the tube. This tube is connected to the apparatus supplying the compressed fluid, which fluid passes up the tube, thence through the packing-ring into the revolving tube, thence through the elbow and tube to the flexible hose, which hose is connected to the moving machine, where the power is utilised, and it will be evident that this tube can be wound and unwound upon the drum without disturbing the tight connection.

In order that there need not be too much strain in drawing the flexible tube from the drum he winds around the said drum a cord having an equal number of convolutions with the hose, and he allows the hose to be loosely attached to the moving machine that is to be attached in such a manner that there is a certain amount of slack between the drum and the machine. The cord is likewise attached to the moving machine, and it is evident that as this machine begins to move away from this drum that, acting upon the cord, it will unwind the drum, and allow the hose to convey the compressed air to the moving machine without being itself subjected to the strain of unwinding the drum. He attaches likewise to the spindle a drum, having a cord winding around it in

the opposite way from that of the cord first mentioned. To this cord a weight is attached, which weight has sufficient power to wind up the tube upon the drum whenever the first-named cord is slack. By placing this apparatus over the centre of the traverse of the moving machine it is evident that a hose may be employed which is only half the length of the entire traverse of the machine. He finds this very useful for connecting power to such machines as are employed to deposit and remove the coal from gas retorts; but it can be usefully employed to communicate power to any other moving machine which does not traverse any very extended distance.

STEAM-ENGINE JACKETING.

No felt fabric, cement, cork, or plastic material has hitherto been found long to resist the action of the calorific disengaged from the apparatus to which they have been applied to preserve them from the effects of the ambient air; placed in immediate contact with this apparatus, the first layers of the material soon become carbonised and used up, exposing fresh layers which carbonise in their turn, and so on until the entire covering, so to say, falls into dust. Thus the application as anti-radiating covering of felts and of felt fabrics, excellent in itself, becomes by reason of the little time they last somewhat expensive, especially when applied to machines working at high pressure, and the object of this invention is to remedy this serious defect—firstly, by improving the manufacture of felt fabrics, and then by applying thereto spiral springs, which are also applicable to other kinds of coverings for steam, ice, and other machines, to keep them at the desired temperature. To manufacture the fabric which forms the subject of the present invention of Mr. CHARLES GAUDEFRY, jun., of Asnières, near Paris, which not being woven although having warp and woof is termed a felt fabric he spreads first a more or less thick layer of flock, cowhair, horsehair, or other hair or shag upon a table, the raised edges of which limit the breadth of the fabric; he then places the woof, which is composed of a cord of the same material passing from one side to the other of the table in its breadth, leaving a space of about an inch between each cord; then places a fresh layer of flock similar to the first, carrying the sheet, fleece, or lap thus obtained to a loom or frame upon which he has previously arranged thick threads of flock in the direction of the length of the fabric and placed at between one and two inches apart or thereabout, which threads form the warp of the felt fabric. Then with another similar thread he makes a seam or stitching which passes through the sheet of flock, comes out underneath at the side of the warp thread, then passes over this thread and rises perpendicularly to the surface; to descend again in the same manner, take another warp thread, and so on. Each stitch of the sewing is at the same distance from the other as that which separates the cords of the woof. This sewing, therefore, tightens the sheet of flock from each side against the woof, and gives it sufficient strength for the use for which this felt fabric is intended.

To prevent the disintegration of the fabric spiral springs are applied running in any direction, but preferably in that of the length of the fabric, and being placed side by side in its entire breadth. These springs are attached to the felt fabric by any available means; the simplest of these means consists in laying the spiral springs on the sheet of flock before the above-mentioned sewing operation exactly above the threads placed beneath on the frame, and to tie them to these threads in the same manner as above described for the sewing, by taking at each stitch one or two threads of the spiral formed by these springs. They are thus firmly and securely fastened to the felt fabric. Mr. Gaudesroy is of opinion that the contact of the apparatus and of the materials or coverings which are to guard or protect them from the effects of the ambient air is the cause of their rapid destruction. Now, the felt fabric of this invention being furnished on one side with spiral springs, by placing this side upon the apparatus they are surrounded by a layer of bed of air, which while preserving the felt fabric, increases the anti-radiating property of the covering. The spiral springs may be round, oval, square, or flat, and be laid in any direction. They may also be first placed upon the machine or apparatus to be covered, and be then covered with the anti-radiating material or fabric chosen; or the springs may be fastened to this material or fabric before the operation of covering the machine or apparatus. In the case of apparatuses presenting very large surfaces to be covered, he replaces the spiral

springs by metal bands, either solid or pierced with holes, and laid edgewise at such distance apart as may be found most suitable in each particular case.

PUMPS.—Messrs. ANDREWS and DRACON, of Reading, propose to form a double-action pump by means of a loose internal cylinder, having lateral play only, as hereinafter described; to effect this they form a pump cylinder having the usual inlet and outlet ports at its ends, and containing the ordinary piston and piston rod; the bottom of this cylinder is screwed in, and the whole is externally fitted and turned (with or without piston rings) so as to fit into an outer corresponding cylinder, which is also provided with inlet and outlet ports, corresponding in size and position with those in the inner or piston cylinder, and which outer cylinder is bored and turned to receive it; this outer cylinder chamber is made longer than the inner cylinder to the extent necessary to allow the said inner cylinder free lateral play to the extent necessary to shift the ports in the same fashion as the ports of an ordinary steam slide valve are shifted. The working result is that after a stroke of the piston, the back part of the inner cylinder being naturally full of liquid, which is retained by a foot or check valve fitted in the suction pipe, the return stroke lifts or pushes the inner cylinder, which is loose, to the opposite end of the outer cylinder, and thus shifts or reverses the ports after the fashion of an ordinary steam slide valve, and allows the ejection of the liquid and a fresh suction from the opposite end, the ports being full open during the whole time of suction and ejection, and only shifting their position at the commencement of each stroke.

GREAT WESTERN COLLIERY COMPANY.—At the meeting, on Monday, the resolution for voluntarily winding-up the company was confirmed; and at an extraordinary meeting which followed it was resolved to reconstruct the company on terms placed before the proprietors.

THE "BONANZA" KING, and KENSINGTON HOUSE.—It is not true that Mr. John Mackay has purchased Baron Grant's Kensington palace. Mr. Mackay says the United States is his home, and he intends to spend his declining years on American soil.

LEAD ORES.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 16	Hornachos (S. lead)	19 11 2	£33 2 8	Nevill, Druce, and Co.
	South Barren	40	16 11 6	Walker, Parker, & Co.
18	North Hendre	100	11 1 6	ditto
	ditto	100	11 8 6	Adam Eytton.
21	Ladywell	10	10 0 0	ditto
	Roman Gravel	50	11 4 6	Sheldon, Bush, and Co.
	ditto	50	11 3 6	ditto
	ditto	50	11 2 6	Walker, Parker, & Co.
	ditto	30	11 10 6	Adam Eytton.
	West Tankerville.	40	11 2 6	Walker, Parker, & Co.

BLENDE.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 21	Roman Gravel	30	£ 3 17 0	Dillwyn and Co.

BLACK TIN.					
Date.	Mines.	Tons c. q. lb.	Price per ton.	Amount.	Purchasers.
March 20	Wheel Coates...	4 0 3 23	£38 2 6	—	Laubuz.
	—W. Grenville...	14 9 3 8	38 17 6	—	Ilbihu.

PERUVIAN TIN ORE SOLD IN LIVERPOOL.				
Date.	Mines.	Tons.	Price per ton.	Purchasers.
March 6		8½	£37 15 0	Thomas Bolitho and Sons.
		3½	34 7 6	ditto
		9	37 15 0	Williams, Harvey, and Co.
		6½	34 15 0	Daubuz and Co.
		8½	36 10 0	R. R. Michell and Co.
		8	36 10 0	Redruth Tin Smelting Co.

COPPER ORES.							
Sampled March 6, and sold at Swansea, March 19.							
Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Betts Cove	131	6½	£3 7 6	Seville	145	6½	£3 10 6
ditto	131	6½	3 8 0	Quebrada	82	14½	8 14 0
ditto	131	6½	3 11 0	ditto	81	14½	8 8 0
ditto	131	6½	3 7 6	ditto	79	14½	8 11 0
ditto	105	6½	2 17 0	ditto	78	14½	8 10 0
ditto	105	6½	2 17 0	ditto	77	14½	8 5 0
ditto	105	6½	2 17 0	Negrillo	67	7½	3 10 0
ditto	105	6½	2 16 0	ditto	67	7½	3 11 0
ditto	100	6½	3 1 6	ditto	67	7½	3 15 0
ditto	100	6½	3 1 6	Berehaven	85	10½	6 2 0
ditto	100	6½	3 1 0	ditto	85	10½	6 2 6
ditto	98	6½	3 0 6	Portuguese	71	25	15 5 6
ditto	95	11½	6 11 0	ditto	71	25	15 5 6
ditto	95	11½	6 14 6	Tigrony Pre.	23	31½	18 18 0
ditto	95	11½	6 14 6	Cronebane	3	75½	49 1 0
Seville	150	8	3 0 0	Almodovar	14	12½	6 17 6
ditto	149	8	3 0 0	ditto	5	17½	9 17 0
ditto	142	6½	3 5 0	Cuba Precip.	9	53½	32 15 6
ditto	142	6½	3 5 0	ditto	6	24	15 3 0
ditto	87	6½	3 10 6	Emily Ore	11	7½	4 5 0
ditto	87	6½	3 10 6	Copper Reg.	10	22½	13 3 6
ditto	156	6½	3 10 6				

TOTAL PRODUCE.					
Betts Cove.....	1625	£6096 17 0	Tigrony Precipitate, 23	£434 14 0	
Seville Copper ...	1058	3494 7 6	Cronebane	147 8 0	
Quebrada	397	3387 10 0	Almodovar	145 10 0	
Negrillo	201	723 12 0	Cuba Precipitate	370 14 6	
Berehaven	170	1039 2 6	Emily Ore	46 15 0	
Portuguese	142	2169 1 0	Copper Regulus	131 15 0	

COMPANIES BY WHOM THE ORES WERE PURCHASED.				
Names.	Tons.	Amount.		
Copper Miners' Company	309½	£ 1,601 8 0		
P. Grenfell and Sons	134	485 15 0		
Nevill, Druce, and Co.	328	2,627 1 6		
Vivian and Sons	819½	3,241 0 0		
Williams, Foster, and Co.	1160½	7,150 12 6		
Mason and Elkington	473	1,549 5 6		
Sweetland and Co.	445	1,362 18 0		
Landore Copper Company	8	147 3 0		
Total	3673	£18,187 1 6		

Total	3673	£18,157 1 6			
NO SALE ON April 2.					
TOTALS AND AVERAGES.					
21 cwt.	Produce.	Price.	Per unit.	Standard.	
Whole sale ...	3673	8 11-16.....	£4 18 11	11s. 4d.....	£82 3 5

COPPER ORES.					
Sampled March 6, and sold at the Royal Hotel, Tenro, March 21.					
Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols.....	63	£1 11 0	Marke Valley	64	£2 4 6
ditto	53	1 9 6	ditto	62	2 17 6
ditto	84	1 8 6	ditto	61	3 15 0
ditto	76	1 7 0	ditto	59	1 18 6
ditto	75	1 8 6	ditto	48	3 11 6
ditto	72	4 6 0	ditto	45	1 8 6
ditto	71	1 12 0	Gunnislake (Clitters) ..	97	3 4 0
ditto	68	1 9 6	ditto	87	3 12 0
ditto	62	4 10 6	ditto	76	3 8 6
ditto	58	1 7 0	ditto	68	4 6 0
ditto	48	1 8 0	Glasgow Caradon	70	2 7 6
ditto	43	3 10 0	ditto	68	2 14 6
ditto	22	4 7 0	ditto	63	2 18 0
South Caradon	93	2 17 6	Hington Down	70	1 13 6
ditto	92	2 18 6	ditto	68	2 3 0
ditto	80	3 2 6	ditto	33	1 10 6
ditto	55	3 16 6	Bedford United	70	2 18 6
ditto	52	10 1 0	ditto	55	3 0 6
ditto	60	5 10 6	East Caradon	60	4 3 6
ditto	48	10 5 0	Davey's Ore	5	4 4 6

TOTAL PRODUCE.								
Devon Great Con.	856	£1806	2	6	Hington Down	171	£313	15
South Caradon	470	2287	14	0	Bedford United	125	371	2
Marke Valley	340	900	2	6	East Caradon	50	208	15
Gunnislake (Clit.)	328	1178	6	0	Davey's Ore	5	21	2

Average standard	£ 93 4 0	Average produce	£219 6	
Quantity of ore	2555	Quantity of fine copper	156 tons 13 cwt	
Amount of money	£7572 13 0			

WATSON BROTHERS' MINING CIRCULAR.

Ten years ago the weekly information which had previously been published for a great number of years in *WATSON BROTHERS' Mining Circular* was transferred to the columns of the *Mining Journal*, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the *Journal* on the Clementina Mine.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make their Circular now published in the *Mining Journal* more extensively known, and to state—

That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to four o'clock.

They also buy and sell shares for immediate cash or for the usual fortnightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and sharedealing than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

WATSON BROTHERS,

MINEOWNERS, STOCK AND SHARE DEALERS, &c.,
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

D'ERESBY MOUNTAIN.—In deference to a pretty general feeling a proposition will be submitted to the meeting on the 28th inst. to subdivide the shares into 10,240 shares, so that each 1-512th share with 20s. paid would stand as 20 shares of 1s. There are several shareholders, however, who consider it would be best to keep the mine in the present limited number, and we should be glad to have the opinions of others prior to the meeting.

D'ERESBY CONSOLS.—The agent writes that the end in the heading of the Gorse lode is improving daily. There is on one side a large vugh, and fine stones of solid lead, samples of which have been sent to the office of the company. A full party of men will be put on here at once, as well as to drive the adit towards Cobblers' lode.

SATURDAY, MARCH 16.—Market quiet. D'Erresby Mountain, 55 to 65; Van, 25 to 27; Roman Gravel, 8 to 8½; West Chiverton, 13½ to 14½; Rookhope Lead, 12½ to 13½; Great Laxey, 3½ to 4; Grogwinlon, 3½ to 3¾; West Pateley Bridge, 2 to 2½; Carn Brea, 42½ to 45; Dolcoath, 31 to 33; South Condurrow, 10 to 10½; Tincroft, 10 to 12; Agar, 3½ to 4; Grenville, 12½ to 13½; Peever, 6 to 6½.

MONDAY, MARCH 18.—Market again quiet, and prices without material change. **TUESDAY, MARCH 19.**—Market more active. East Van advanced to 4½; South Condurrow to 10½; and Grenville to 2½ buyers. East Van, 4½ to 5; South Condurrow, 10½ to 10¾; Grenville, 2½ to 3; D'Erresby Mountain, 55 to 65; Roman Gravel, 8½ to 9; Van, 25 to 27; West Tolgus, 7½ to 8; Agar, 4 to 4½; Great Laxey, 20 to 21; West Chiverton, 13½ to 14½; Tankerville, 3½ to 3¾; Grogwinlon, 3½ to 3¾; Parys Mountain, 8½ to 10½; Devon Great Consols, 3½ to 3¾; Richmond, 9½ to 9¾; Eberhardt, 5½ to 6½.

WEDNESDAY, MARCH 20.—Tin shares quiet. Lead firm at quotations. East Van advanced to 6½ buyers. Carn Brea, 42½ to 45; Devon Great Consols, 3 to 3½; Dolcoath, 31 to 33; D'Erresby Consols, 5 to 6; East Van, 4½ to 5; Grogwinlon, 3 to 3½; Great Laxey, 20 to 21; Leadhills, 3½ to 4; Parys Mountain, 8½ to 10½; Penrthral, 4½ to 5; Roman Gravel, 8 to 8½; Rookhope Lead, 12½ to 13½; South Condurrow, 10½ to 11; Tankerville, 3½ to 3¾; Tincroft, 10 to 11; Van, 25 to 27; West Chiverton, 13½ to 14½; West Pateley Bridge, 2 to 2½; West Tolgus, 7½ to 8; Agar, 4 to 4½; Great Laxey, 20 to 21; West Chiverton, 13½ to 14½; Tankerville, 3½ to 3¾; Grogwinlon, 3½ to 3¾; Parys Mountain, 8½ to 10½; Devon Great Consols, 3½ to 3¾; Richmond, 9½ to 9¾; Eberhardt, 5½ to 6½; Chantale, 11½ to 13½; New Quebrada, 1½ to 1¾; Pestarena, 6½ to 7½; Richmond, 9½ to 9¾.

THURSDAY, MARCH 21.—The market rather dull. South Condurrow firm at 11 buyers. East Van shares have fluctuated throughout the day, and close at 6½. D'Erresby Mountain, 55 to 65; Van, 24 to 26; Roman Gravel, 8 to 8½; West Chiverton, 13 to 14; Leadhills, 3½ to 4; Great Laxey, 19½ to 20½; Grogwinlon, 3 to 3½; Rookhope Lead, 12½ to 13½; Tankerville, 3½ to 3¾; West Wye Valley, 3 to 3½; Wye Valley, 1½ to 1¾; Carn Brea, 42½ to 45; Dolcoath, 31 to 33; South Condurrow, 10 to 11½; Tincroft, 10 to 11; Agar, 4 to 4½; Great Laxey, 20 to 21; West Chiverton, 13½ to 14½; Tankerville, 3½ to 3¾; Grogwinlon, 3½ to 3¾; Parys Mountain, 8½ to 10½; Devon Great Consols, 3½ to 3¾; Richmond, 9½ to 9¾; Eberhardt, 5½ to 6½; Chantale, 11½ to 13½.

FRIDAY, MARCH 22.—There is a little doing in tin shares, and prices are about the same as quoted yesterday. East Van have been largely dealt in at from 6 to 7, and close 6½ to 6. Van, 24 to 26; Leadhills, 3½ to 3¾; D'Erresby Mountain, 55 to 65; West Chiverton, 12 to 13; Great Laxey, 19½ to 20½; Roman Gravel, 8 to 8½; Rookhope Lead, 12½ to 13½; Tankerville, 3½ to 3¾; Grogwinlon, 3½ to 3¾; Richmond, 9½ to 10½; Eberhardt, 5½ to 6½.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

D'ERESBY CONSOLS MINING COMPANY (Limited).—Capital 12,000l., in 10l. shares. To acquire mineral property on the Gwydyr Estate, parish of Llan rochwyn, Carnarvon. The subscribers (who take one share each) are—S. W. Daukes, the Knoll, Beckenham, 20; J. Y. Watson, St. Michael's-alley, mineowner, 20; N. E. Watson, St. Michael's-alley, shareholder, 50; J. Y. Watson, 30; Austinfriars, stockbroker, 1; H. Dean, 8; German's road, Forest Hill; J. Foster, 1; Newington Green-road, agent; J. E. Stapcoole, Pinner's Hall. The directors are Messrs. S. W. Daukes, J. Y. Watson, and Robert Spence, the qualification being the holding of 20 shares.

SCARBOROUGH, QUEEN'S PARADE, TRAMWAY COMPANY (Limited).—Capital 3500l., in 5l. shares. To construct a tramway along the Queen's Parade, Scarborough. The subscribers (all of Scarborough) are—W. Taylor, 50; G. T. Brown, 50; G. Ponett, 50; W. Baring, 20; R. Swift, 20; B. Fowler, 10; Robert Fowler, 10.

NEW DIRECT SUPPLY AND TRADING ASSOCIATION (Limited).—Capital 20,000l., in 1l. shares. To carry on the general business of a co-operative store. The subscribers are—G. E. Ross, 107, Cannon-street, 250; J. E. J. Home, 13, Upper Ashby-street, Northampton-square, 50; R. L. Steward, Orchard House, Bunbury, 250; W. C. Hall, Upper Thames-street, 250; Mark Danton, 93, Gracechurch-street; T. G. W. Westmoreland, Carshalton, 1; E. G. Thompson, 166, Stanhope-street, 1.

WEST AUCKLAND BREWERY COMPANY (Limited).—Capital 29,000l., in 11s. shares. To carry on business as brewers at West Auckland. The subscribers are—W. Standish, Darlington, 50; H. Ridd, Thirsk, 50; R. Nelson, Bishop Auckland, 10; W. C. Curran, 10; King-street, Cheap-side, secretary; W. R. Leacy, Clapham, 10; T. Grover, Bridgemark, 10; G. Sillman, Bishop Auckland, 10.

CHAPMAN AND COMPANY (Limited).—Capital 3000l., in 30l. shares. To take over the business of Messrs. Chapman and Co., of Little Peter-street, Manchester. The subscribers, who take one share each, are—Alfred Butterworth, Oldham; A. W. Henry, Barton-upon-Irwell; W. G. Page, Higher Broughton; C. F. Allison, Urmston, near Manchester; H. Ainley, Oldham; J. C. Peacock, Urmston; T. Thompson, Hollinwood.

TRAFALGAR WORKS (Limited).—Capital 5000l., in 10l. shares. To take over the Trafalgar Works, Old Kent-road, and carry on business as India-rubber manufacturers. The subscribers, who take one share each, are—S. H. Mount, 24, South-street, E.C.; W. Metter, 76 and 77, Gracechurch-street; J. H. White, 25, Burdett-road; A. C. Bradshaw, Leytonstone; D. Wonneller, 76, Albany-street, N.W.; J. Neville, 4, Horton-road, N.E.; C. B. Williamson, Hill-street, Berkeley-square.

LONDON STOCK BRICK COMPANY (Limited).—Capital 20,000l., in shares of 5l. each. To acquire the right and title of W. Wheldon and C. Phillips in the chalk, clay, sand, and other minerals under lands at Bridgemark Island, Essex. The subscribers (who take one share each) are—C. Phillips, 115, Cannon-street, brickmaker; P. J. Lourey, 61, Hackford-road, clerk; W. Wheldon, 26, Martin's-lane, engineer; T. Jervis, 3, King-street, Cheap-side, secretary; W. R. Leacy, Clapham, contractor; T. Grover, Bridgemark, manager; R. E. Tyler, 16, Caroline-street, Bedford-square, architect. The directors are Messrs. R. E. Tyler, T. Jervis, and W. Wheldon, the qualification for any future director being the holding of shares to the value of 250l.

F. FAUCHEUX ET CIE (Limited).—Capital 10,000l., in 5l. shares. To carry on the business of F. Fauchoux and Cie, of Deal, dealers in preserved food. The subscribers (who take one share each) are—R. Greberton, 14, Church-terrace, Lee; H. Thurburn, Russell-road, Kensington; F. Fauchoux, North End, Deal; H. Brown, New Malvern; E. Bartlett, Laurel Cottage, Lower Norwood; S. G. Sprent, 175, Highbury New Palace.

EXETER SHIPPING INSURANCE ASSOCIATION (Limited).—This company is "limited" by guarantee to 5l., the object being the mutual insurance of ships belonging to members. The subscribers are John Holman, 39, St. Mary Axe; W. J. Jones, Teignmouth; John Temple, Teignmouth; J. Drew, Teignmouth; T. W. Hutchins, Teignmouth; J. W. Matthews, St. Mary Axe; R. Burney, St. Mary Axe.

DOMESTIC CO-OPERATIVE COAL COMPANY (Limited).—Capital 1000l., in 1l. shares. To supply coal on co-operative principles.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, March 20: In the 15 we have now cut into the lode 8½ ft. It still continues blue, and of a kindly appearance. We are occasionally meeting with small ribs of lead. The ground is very hard for cutting as far as driven. There is no sign of the north wall of the lode as yet. All other works are going on as usual.

ASSHEION.—John Craze, March 21: Not much has been done in the 60, east of boundary, since my last, consequently I have no change to report. We have been set to 22 men. Burns—taken to train their stuff to lodge, and to pay 10s. per ton towards dressing cost. Two men in the back of the 50, east of boundary, at 34. 10s. per ton; two men in the bottom of the 40, east of Browne's, at 44. per ton; two men in the back of the 60, west of Mawr, at 44. 10s. per ton; two men in the back of the 60, east of Mawr, at 71. per ton; two men in the back of the 50, east of Mawr, at 71. per ton; four men in the back of the 20 south, on north and south lode, at 64. 5s. per ton; two men in the back of the 20 south, on north and south lode, at 64. 5s. per ton; two men in the bottom of the 8, south of Gundry's, at 64. per ton; two men in the adit north of Lindow's, at 64. 10s. per ton. The highest bidder for the parcel of lead (30 tons), for sale on the 18th inst., are Messrs. Walker, Parker, and Co., at 10l. 10s. per ton; and for the 20 tons of blende, Messrs. Kenrick and Son, at 1l. 17s. 6d., f.o.b. We shall ship 35 tons of lead at the same price if Messrs. Walker, Parker, and Co. will accept the extra 5 tons.

BEDFORD UNITED.—R. Goldsworthy, W. Phillips, March 21: The winze from the 127 is communicated with the 138 fm. level, and will be completed tomorrow. The men have now commenced to take down the lode in the 138 fm. level east, and as far as seen it still maintains its former size and value. Saturday being setting and pay, a full report shall be sent you next week. **BETWIS & CO. LD.**—H. T. Huley, March 18: The shaftmen are again at work in the bottom; they have not taken down any of the lode since my last. The lift works well; I hope now to get down for another level without any hindrance. The rise in the north branch at the 20 is looking well, with 2 tons of lead per fathom. The lode in the south branch at this level is again yielding ore, worth about 7 cwt. per fathom, and getting larger. The deep adit is without change. In the driving of the shallow adit in the south side there is a very nice looking lode, composed of spar, gossan, munda, and blende, with spots of lead occasionally; this will in all probability lead to good ore. Handpicks in back of adit is worked out; I have put them to rise further back, where I think they will open a good piece of ground. The pitch in the bottom of this level is yielding very nice ore.

BLAEN CAELAN UNITED.—J. Fell, March 20: The winze below the 20 continues without change, and is worth fully 30l. per fathom for lead; the rock is very hard, and progress in sinking is consequently slow. Have not yet settled with the men for sinking the engine-shaft, but shall do so in a few days; in the meantime the lode is being cut, and all other work progressing satisfactorily. Telegram since received: Add mining report, branch lead come into winze from north.

BODIDRIS.—H. Hotchkiss, March 20: Setting Report: The 60 cross-cut to drive south, at 54. per fathom. This contains ore spar, and letting out a live water, with good prospects for progress. The winze in the bottom of the 46 to sink is set at 94. per fathom. The lode here is producing some nice lead and blende. The rise in the back of the 45 is set at 84. per fathom. This rise is going up in a good lode. The cross-cut to drive north at this level is set at 114. per fathom. As the beds of rock are taking a more northerly dip I reckon we are not far from the Craiglog lode. The mine, upon the whole, is looking more promising.

CAMBRIAN MINES.—T. Glanville, March 19: Esgair-Fraith: The eastern shaft below the 23 is worth 2 tons of rich copper ore per fathom. We have this morning intersected a vugh in the bottom of the 23 east, which has completely changed the character of the lode; this is a good piece of mineral ahead of us. We are still engaged in sending away the copper ore to Swansea as fast as possible, and have up to this date carted to the station 100 tons. We shall continue carting until Saturday next, in order to make up the sampling, which takes place at Swansea, on Wednesday, the 27th inst. All other parts of the mine are looking just as usual.

COMBARTIN.—J. Comer, March 21: In the 28 west of cross cut from Harris's shaft, driving north, we are intersecting numerous branches of capel and quartz, highly impregnated with lead, blende, and munda, and looking at the distance the lode is shown at surface, we expect to cut it in a few days. In the 15, east of Harris's shaft, the lode is 4 ft. wide, composed of capel, quartz, munda, and gossan, and showing an excellent piece of stopping ground for a future improvement. In the adit cross-cut driving north the end is in a beautiful channel of kilaas, highly charged with mineral, and is letting out water freely, which we believe to be a good indication of meeting with something good shortly.

COURT GRANGE.—J. G. Green, March 20: Below I beg to hand you my fortnightly report:—The engine-shaft is being sunk at a fair rate; now down 7 fms. below the 65, and working on uninterrupted. The 65 east is in a hard lode; 8 ft. wide, much improved in appearance since we commenced driving, showing good stones of blende. The 45 east is in a looking ground; we have still some fathoms to drive to come under the line of the branches of ore worked in the levels above. Everything is ready at Roskell's pit, nothing met with yet of importance, although I am opinion the lode in which the ore is found in the level above is still further to the south; a little more work will prove this. The 14 east is being driven in a lode 6 ft. wide, of excellent character, fully up to the values previously set on it; we have now driven through 17 fms. of very rich ground in this level. We have finished sinking Francis's shaft deep enough for the 14; the men are now engaged cutting tip lode, fixing pumps, and skipway. After this work is completed, driving will be commenced west towards the rich ore ground. No other change to notice. At surface we have completed the masonry of big wheel pit, and are now fixing frame, preparing to erect the wheel; we have also completed the crusher, and are building frame for stone-breaker foundations. All other surface work progressing satisfactorily.

CWMYTH.—March 20: The lode in Gill's upper level, to drive east on the new lode, is 3 ft. wide, worth 18 cwt. of lead ore per fathom; from the level above (Michell's) it looked as if we should have had to drive about 10 fms. more before reaching the shoot of ore east of Michell's cross-cut, but it appears now as if we have it in the present end, caused either by the ore dipping very fast west, or the ore ground lengthening west in depth. The winze to sink in the bottom of Michell's, east of cross-cut, will be sunk 15 fms. east of the western winze, and about 12 fms. in advance of Gill's level, in a lode worth 12 cwt. of lead ore per fathom; we hope to get the branches of ore worked in the levels above. Nothing new has been met with in driving north of Michell's cross-cut with rock-drill, and now dry. In a stop in the back of Gill's upper level, east of winze (new lode), the lode is 2 ft. wide, worth 1½ ton of lead ore per fathom. During the past month the stop over Michell's level west, on new lode, has been poor, but has again improved; now worth 12 cwt. of lead ore per fathom. The new lode in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of lead ore per fathom. The stop in the back of the intermediate level, on the new lode, is suspended, and the men put to stop in the bottom of the same level. The lode in the stop in the bottom of the intermediate level, on the new lode, is 2 ft. wide, worth 1½ ton of lead ore per fathom. The level in the stop in the 12 fm. level, over Michell's level, is producing 15 cwt. of

but I hope by to-morrow night to have the shaft in fork and sinking resumed. The drive in the 24 west has for this reason been somewhat retarded. The end to-day is in a kindly lead, containing very fine stones of copper, and I look for a great improvement in a few fathoms further driving; in fact, a rich lead ahead, in my opinion, as the winze in course of sinking below the 12, 3 fms. in advance of the end, is in rich lead. The 12 west is in a large loose rock. The 12 cross cut, towards the north lode, continues in a similar character rock to that reported last week. Light shales, very favourable for the production of mineral in large quantities. The intersection of the north lode is a matter of great interest and importance, for should it prove rich (as in all probability it will, as it is in the same channel of ground where the main lode makes rich), the value of the mine cannot be over-estimated. The distance driven has been somewhat disappointing, as it was supposed when the cross-cut was commenced to be much nearer than it has since proved to be. The 12 east, stop, on junction, has fallen off somewhat in value, and the length of the bunch of ore, moreover, becomes shorter as we go up. This is to be expected, as the course of ore is much richer as depth is obtained, and is twice the length at the 12 it was in the adit, and I expect it to increase in a corresponding ratio at the 24. No other change in the other stopes to notice; the winze whole are worth in the aggregate 40¢ per fathom. The eight men stopping on the junction have broken during the last two months about 250¢ worth of ore. I purpose sampling another parcel of lead (10 tons) on the 30th inst., being the third lot which will have been sent away since Jan. 1, and this, too, when our reserves are constantly being added to. The ore is of first-rate quality, and I hope we shall this time get a somewhat higher price than the 13¢. 10s. paid for the last parcel, which is more than 5¢ per ton less than the highest price our ore realised, although even this is much higher than the general run of adjacent mines. The excavations for new wheel-pit, and also new road, in a very forward state. At the new reservoir on the head water of the River Lerry I am glad to report uninterrupted good progress; when completed, it will be of inestimable value to our mine.

NEW BRONFLOYD.—T. Kemp, March 21: No. 3 Shaft—North Lode: The lode in the 121 end, west of shaft, maintains its productiveness, and is equal in value to last report. I am pleased to say we are opening excellent stopping ground here, but owing to the extreme hardness of the lode carried by this driving slow progress is being made. In order to facilitate this work I have given the men instructions to turn the drive more to the north, where I think the ground will prove to be more favourable, the object of which is to communicate with the winze that is being sunk from the 110 at the earliest date possible; we have about 2 fathoms further to extend this level to get under the point of the said winze; after the communication is effected we can strip down the lode to greater advantage. The winze from the 110, above referred to, as stated in former reports, is being sunk in the country on the north side of the lode, and when blasting near the lode the same is exposed, which is showing a fine appearance, and I am fully satisfied that the winze is going down on the back of a fine course of ore.

Curtis's Cross-cut—Middle Lode: From the appearance of the ground in the ends of this cross-cut south in the 73 east, and also from dialling, I am inclined to think it has passed through the lode. I have brought the men back some little distance from the forebrest, and put them to drive east, where the lode is composed of killas and spar, carrying strings of ore, and hoping it will soon enter the rich deposit of mineral gone down in the sole of the 52, over this point. The lode in the 52 end, west of Lloyd's cross-cut, is a little disordered, consequently is not producing quite so much ore. All other points of operation are without change. Biddings for 25 tons of silver-lead will be due at the office on Saturday next (the 23rd). Hauling and dressing going so fast as the nature of the work will admit.

NEW SOUTH MERLYN.—R. Rowlands, March 22: Acting on your instructions, I have let the 80 level shaft to drive or rise at a tonnage rate for lead. At our other operation north we are looking very promising.

NORTH HEURE.—G. Ellis, March 21: Adit Level: This level has been completed up to the No. 2 shaft by two men, and they have commenced the erecting of a winze in the above shaft, for the purpose of clearing the level to the end, and allow of some trials being made therein.—North Level: Six men have been engaged in driving this level, and have advanced 20½ ft. I am pleased to say that we have had an improved change of ground, composed of strings of lead and blende running east and west; these are very promising, and continue to improve as we advance. I have every reason to believe that we shall soon have a good lode here. Six men have been stopping in the bottom, west of the level, so as to get the wagons to the forebrest, and take the head, &c., away. Within this last fortnight this portion of the mine has improved very much, and there are many indications that it will open out well.—East of South Level: Twelve men have been employed in this level a portion of the month, but had to cease working in consequence of the breaking of the pulsmotor. The north and south ends have much improved, more especially the north cross, the bed of ore here being 4 ft. thick. The south cross-cut is widening, and producing more lead. I anticipate being able to resume operations early next week, after the Alpha patent pumping engine has removed the water, which I believe it will have accomplished before that time.—West Workings of the South Level: Six men have been at work here making room for the extension of the incline, so as to obviate wheeling, which is expensive and slow work. I am now waiting for the rails to complete this, which I trust to receive at once, so that the expense incurred in wheeling, and also the cost of tramping from 12s. to 10s. per score. There are 38 men raising ore in this part of the mine at 20s. per ton, and I am happy to say that it is as good in quality as usual.—Settings: The north level to six men, at 10s. per yard. West of ditto to stop by six men, at 25s. per yard. South of east level to six men, at 10s. per yard. North of ditto to six men, at 35s. per yard. Set 38 men to raise lead ore west of south, at 20¢ per ton. Tramping stuff to twelve men, at 12s. per score of kibbles. I am happy to say that the mine throughout is looking very well indeed, and the discovery of lead and blende in the north has greatly improved the prospects, and augurs a prosperous future.—P. S. The Alpha patent pumping-engine was put in operation at 7:30 last evening, and I beg to say that I am highly pleased with it. The quantity of water continually flowing from it is wonderful, and its compactness, non liability to get out of order, and economy of steam, makes it peculiarly suitable for mines. The fact of the cylinders revolving makes it very suitable for ventilating the workings when pumping or winding. I expect that with 18 hours constant working the whole of the water will be pumped out of the east end working.

—March 18: I attended the Holywell sale to day, and regret to say that prices were exceedingly low. I sold to Messrs. Walker, Parker, and Co. 100 tons, at 11s. 6d. per ton, and to Mr. Adam Epton 100 tons, at 11s. 8d. per ton.

NORTH LAXE.—John Sowden, March 19: The stopes in the roof of the 110 is worth ½ ton of lead per fathom. In the 84 end the lode is improving; now 1 ft. wide, and to day there is a small branch of lead seen in the end, and we expect a further improvement, as the end will soon be under the run of lead ground gone down from the level above. The 60 stopes is worth ¾ ton of lead per fathom.

PANDORA.—H. Nottingham, March 21: New Lode: The 33, driving south of Pene's shaft, is advancing in a good course of ore, worth fully 1½ ton of lead and the same of blende per fathom, with a part of the lode standing on the footwall side, so that we cannot say yet how wide the lode is here. The end has also become very rich, and contains good blende and the stopes over the 23 and 24 are equal to last situation, and the lead ground is lengthening to the south as we go up. The 13 driving south is still unproductive, and no doubt will be till we reach No. 2 run of ore; indications are not wanting that we are approaching this, and I expect another month will see this realised.—Goddard's Lode: The 33 going south from shaft cross cut is now in a strong lode, mixed all through with blende, and showing but little lead at present; the ground here is similar to what we had at the 23 above before entering No. 1 run of ore, and this strengthens my opinion that this ore is yet before us. This level going north continues to look well; this driving has yielded for the distance driven north of cross cut 2 tons of lead and 1 ton of blende per fathom, the lead here being very soft and rich. Both of these ends are extremely wet, as the whole of the water is pouring down from the roof overhead, so that we are obliged to put sheet-iron for the men to work under. The 23 end shaft is suspended, and the men are brought back to sink a winze on No. 1 run of ore. We find the lode is being drained by the 33 at this point, so that I am in hopes of being able to put on a full set here next week; the lode here is worth 25 cwt. of lead and 1 ton of blende per fathom. The 23 driving north is not looking so well, but this must improve again, as we have better ground before us. The stopes over mid-level, south of junction, is yielding blende chiefly (say) 1 ton per fathom, and a mixture of lead. The stopes under the 9 maintains its former value, but the ground here is nearly exhausted.—We are making fair progress in dressing, and have the floors well stocked with stuff. Samples have been sent out for 30 tons of blende to be sold on the 25th inst.

PATELEY BRIDGE.—O. Williams, March 21: The Rake vein in the 30 east has improved very considerably during the last three days, being from 6 ft. to 7 ft. in width, 3 ft. of which is a solid course of lead ore, worth from 6 to 7 tons per fathom, and the most important feature in connection with this rich discovery is the long length of unexplored ground before us, and the great height of backs (35 fms.). The same vein in the 30 west is beginning to show strong indications of a rich deposit of lead ore in front of the end, being from 7 ft. to 8 ft. in width, and worth 10 cwt. of lead ore per fathom. The 12 in the back of the 30 east are worth 2 tons of lead ore per fathom. The tribute pitches, four in number, are producing fair quantities of lead ore, and the men are making good wages. Dressing and smelting lead is being carried on regularly; machinery in a fair state of repair.

PEDYAN-DREA.—W. Tregay, March 21: The lode in the 140 west end is worth 20¢ per fathom. All other points producing as usual.

PENAST.—March 21: I have had the engine shaft cased and divided, and the wheel-bucket brought to the bottom of the mine, and have commenced driving both east and west at the 133 yard level, so you see we have made very good progress in this respect, and the 80 west we are entering a fine, rich, and improved stopes of carbonate, and the end looks very favourable. I have dialled the course of the south lode, and find that we have a greater distance to go with the cross-cut before intersecting it; we shall urge the point on as fast as possible. The stopes in the back of the 80 east is yielding good supplies of mineral, and I am glad to say that in the back of the 60 east the stopes have greatly improved both for carbonate and lead. Our deliveries from the dressing-floor are likely to much improve.

LYNIMON.—John Garland, March 20: On Friday last we set the 38 to drive east of Jones's winze, to six men, at 12¢ per fathom, and the same level, west of Herbert's winze, to six men, at 14¢ per fathom; in these two ends the lode is large and open, and rich. I am to commence driving here in about a fortnight. In order to facilitate this work the 36, east of Herbert's winze, has been suspended for the time. In the present end the lode presents a very promising appearance, worth fully 1 ton of lead ore per fathom. The dressing of another parcel of lead ore is being proceeded with.

PRINCE OF WALES.—J. Andrews, March 20: The lode in the deep adit end, west of Vigar's shaft, is small, but it yields some good arsenical muddle and carbonate of iron. The lode in the shallow adit end west is 6 in. wide, composed chiefly of quartz, capel, and muddle.

ROMAN GRAYLES.—A. Waters, March 21: The various points throughout the mine are looking as some of the past. We have to-day sold 180 tons of lead ore, realising 2022¢, and 30 tons of blende, realising 115¢. 10s.

SAINT PATRICK.—William Francis, March 20: The ore continues in the cross-course on which the 120 yard cross-cut is being driven north, in the same mineral compounds, with a firm heading side, and speedy ground for driving. The 69 cross-cut north, in the chert, is a little easier, and good progress is being made in both directions.

SOUTH CONDURROW.—Wm. Rich, Wm. Williams, H. Abraham, March 20: The 90 end, west of King's, is worth 7¢ per fathom. The 93 east is worth 9¢ per fm. The 80 east is worth 8¢ per fathom. The 70 west is worth 10¢ per fathom. The rise in the back of the 70 is up about 1 ft. The 1 and 2 stopes under the 23 and 24 are equal to last situation, and the lead ground is lengthening to the south as we go up. The 13 driving south is still unproductive, and no doubt will be till we reach No. 2 run of ore; indications are not wanting that we are approaching this, and I expect another month will see this realised.—Goddard's Lode: The 33 going south from shaft cross cut is now in a strong lode, mixed all through with blende, and showing but little lead at present; the ground here is similar to what we had at the 23 above before entering No. 1 run of ore, and this strengthens my opinion that this ore is yet before us. This level going north continues to look well; this driving has yielded for the distance driven north of cross cut 2 tons of lead and 1 ton of blende per fathom, the lead here being very soft and rich. Both of these ends are extremely wet, as the whole of the water is pouring down from the roof overhead, so that we are obliged to put sheet-iron for the men to work under. The 23 end shaft is suspended, and the men are brought back to sink a winze on No. 1 run of ore. We find the lode is being drained by the 33 at this point, so that I am in hopes of being able to put on a full set here next week; the lode here is worth 25 cwt. of lead and 1 ton of blende per fathom. The 23 driving north is not looking so well, but this must improve again, as we have better ground before us. The stopes over mid-level, south of junction, is yielding blende chiefly (say) 1 ton per fathom, and a mixture of lead. The stopes under the 9 maintains its former value, but the ground here is nearly exhausted.—We are making fair progress in dressing, and have the floors well stocked with stuff. Samples have been sent out for 30 tons of blende to be sold on the 25th inst.

ROMAN GRAYLES.—A. Waters, March 21: The various points throughout the mine are looking as some of the past. We have to-day sold 180 tons of lead ore, realising 2022¢, and 30 tons of blende, realising 115¢. 10s.

SAINT PATRICK.—William Francis, March 20: The ore continues in the cross-course on which the 120 yard cross-cut is being driven north, in the same mineral compounds, with a firm heading side, and speedy ground for driving. The 69 cross-cut north, in the chert, is a little easier, and good progress is being made in both directions.

SOUTH CONDURROW.—Wm. Rich, Wm. Williams, H. Abraham, March 20: The 90 end, west of King's, is worth 7¢ per fathom. The 93 east is worth 9¢ per fm. The 80 east is worth 8¢ per fathom. The 70 west is worth 10¢ per fathom. The rise in the back of the 70 is up about 1 ft. The 1 and 2 stopes under the 23 and 24 are equal to last situation, and the lead ground is lengthening to the south as we go up. The 13 driving south is still unproductive, and no doubt will be till we reach No. 2 run of ore; indications are not wanting that we are approaching this, and I expect another month will see this realised.—Goddard's Lode: The 33 going south from shaft cross cut is now in a strong lode, mixed all through with blende, and showing but little lead at present; the ground here is similar to what we had at the 23 above before entering No. 1 run of ore, and this strengthens my opinion that this ore is yet before us. This level going north continues to look well; this driving has yielded for the distance driven north of cross cut 2 tons of lead and 1 ton of blende per fathom, the lead here being very soft and rich. Both of these ends are extremely wet, as the whole of the water is pouring down from the roof overhead, so that we are obliged to put sheet-iron for the men to work under. The 23 end shaft is suspended, and the men are brought back to sink a winze on No. 1 run of ore. We find the lode is being drained by the 33 at this point, so that I am in hopes of being able to put on a full set here next week; the lode here is worth 25 cwt. of lead and 1 ton of blende per fathom. The 23 driving north is not looking so well, but this must improve again, as we have better ground before us. The stopes over mid-level, south of junction, is yielding blende chiefly (say) 1 ton per fathom, and a mixture of lead. The stopes under the 9 maintains its former value, but the ground here is nearly exhausted.—We are making fair progress in dressing, and have the floors well stocked with stuff. Samples have been sent out for 30 tons of blende to be sold on the 25th inst.

In the bottom of the 40 in a few days; the lode is worth 12¢ per fathom. The 40 west is worth 9¢ per fathom. The ground is favourable for driving in the 30 cross-cut north. The Plantation shaft is sunk deep enough for a 50 fm. level; we have not yet intersected the lode in this shaft, but hope to do so shortly. We sampled yesterday 23 tons of copper ore.

SOUTH DAREEN.—H. James, March 21: The lode in Bishop's shaft is of a most promising description, now producing saving work for the dressing floors. In the 100 end west the lode is worth 10¢ per fathom. The winze in the 90 is worth 45¢ per fathom. No further change in the forebrest of this level since my last report. The stopes in this level are worth on an average 25¢ per fathom. The lode in the 80 has been stripped up to the forebrest, and for the piece taken down is worth 32¢ per fathom; the lode in the extreme end is at present very much disturbed by an open cross-joint, but from appearances I think it will resume its former productiveness after we have driven through the influence of the above joint. The two stopes in this level are worth 10¢ per fathom. The 40 tons of silver lead ore sold on March 16 realised 663¢. Machinery working well.

SOUTH DE ERESBY MOUNTAIN.—Thomas Bennetts, March 20: The men are making fair progress in driving the cross-cut from the engine-shaft to No. 2 lode, and I am glad to say that we are meeting with good faces of lead in the cross-cut dropping towards the lode, which is a good indication of meeting with a good lode when intersected. The lode in No. 2 adit is still in disordered ground, but I am glad to say that it has a much better appearance to-day, and I expect to get into good lead ground shortly.

SOUTH MOLTON CONSOLS.—T. Harris, Thomas May, March 21: The lode in the 22 south is 4 ft. wide, containing spots of lead, associated with beautiful priam. We have suspended driving the 12 end south, and put the men to drive east on the east and west lode, in order to see if we can intersect our north and south lode, which we hope to do very shortly. We shall put two men to coasten for ore on the north and south lode, about 80 or 90 fms. south from the 12 fm. level cross-cut.

SOUTH ROMAN GRAYLES.—March 21: Shelve Deep Adit Cross-cut: I have put two men to drive north on No. 1 branch or lode. We sunk a shaft at surface 4 fms. on this in May, 1872, but had to abandon it in consequence of water. In 1873 we intersected it in the deep adit cross-cut, where we met with a strong feed of water. It was then believed we bled the water from the 40 south at the Roman Gravel, as that level became dry a few days after we crossed the joint. I would here remark that two shafts were sunk on this lode by former companies, but I do not know with what result. I have also started two men to drive north on the No. 2 branch 11 fms. behind the fore-end. This branch is about 5 in. wide, containing lime, spar, and nice shods of lead ore.

SOUTH TOLCARN.—William Rich, James Knotwell, March 20: The boundary shaft is being sunk below the 30 by six men. The lode in the bottom is increasing in size, and carries a little tin. The lode in the 30 end has a promising appearance. We sampled yesterday 7 tons of copper ore.

TANKERVILLE.—Arthur Waters, March 21: We have to-day sampled 100 tons lead ore for sale next week. No change in the mine worthy of notice since last week.

TOLGUS CONSOLS.—W. C. Vivian, March 21: I find to-day that the 40 cross-cut north has been driven rather more than half the distance which I calculated would be necessary to reach the lode. The rock in the present end is as favourable as we have ever had for progress in this level.

TREBEIGH CONSOLS.—J. Gifford, March 21: In the 45 fm. level east the lode is 2 ft. wide, principally killas, with a small flookan on the footwall. In the cross-cut south of the engine, at the 45 fm. level, driving on a small branch, running about 30° west of south, and underlying west a little, we broke some small bits of lead and white iron yesterday. Whether this is the north and south lode, which is said to pass near our shaft, I cannot say; but driving on it will prove it, as also if the branch seen in the shaft at the 30 fm. level holds down. No improvement in the 45 west.

TRELEIGH WOOD.—W. Goldsworthy, March 21: There is no change to call for remark since my last report.

TYN-Y-FRON.—E. Jones, March 19: We have discontinued the cross-cut driving south, as we have not come upon the south lode where we expected; and from a branch or lode we find 11 fms. east of this, running about 14° south of east, we think it probable that has influenced and carried the south lode further south than its position would be according to its bearing west. We shall resume our drive east on the main lode on the south part of the lode, where we have the course of lead ore, as by driving in that direction we shall be gaining greater backs, and laying open the mine and ore ground for stopping.

WEST ASHLEY.—John Grace, March 21: In the 80, west of boundary, we have cross-cut into the lode in this end 6 ft., which is composed of lead, blende, and spar of a very promising and kindly appearance. The copper lode still remains south. We picked into it about 9 in. or 1 ft., and it shows very nice copper. The men have now resumed driving at 5 in. 10s. per fathom; the part of the lode carried, about 2½ ft. wide, is producing fully 30 cwt. of lead and the same quantity of blende per fathom, with every indication for a still further improvement. We have set the following pitches for lead ore on the following conditions—to tram all the stuff to the lode, and to pay 10s. per ton towards the dressing expenses.—Four men in the back of the 60 west, at 21. 25s. per ton. Two men in the back of the 60 west, at 4¢. 6s. per ton. Two men in the back of the 60 west, at 5¢. 6s. per ton. Two men in the back of the 60 west, at 6¢. 10s. per ton. We also have another pitch ready for the men in the back of the 60, which we shall set as soon as we can get men; the price will be from 4¢. to 4½. 6s. per ton. The pitches, on the whole, are looking exceedingly well. The highest bidders for the 20 tons of lead are Messrs. Walker, Parker, and Co., at 10¢. 10s. per ton f.o.b. The highest bidders for the blende (10 tons) are Messrs. Kenrick and Sons, at 17s. 8d. per ton. We shall ship 25 tons of lead at the same price if Messrs. Walker, Parker, and Co. will accept the extra 5 tons.

WEST GODOLPHIN.—John Pope, March 20: There is no change in the mine worthy of remark since last report. We sampled our copper ores yesterday, computed weight 24 tons. A full report will be forwarded in time for the committee meeting on Tuesday next.

WEST KOSKEAR.—R. Stephens, W. Bennetts, March 21: The lode in the 12, driving west, is fully 6 ft. wide, intermixed with copper ore throughout; a very promising lode indeed. The masons are progressing with the new engine-house exceedingly well, and if the weather continues fine we have no doubt of having the house in readiness to commence the erection of the engine quite a fortnight earlier than is specified in the contract.

WEST TANKERVILLE.—Arthur Waters, March 21: We have to-day sold 40 tons of lead ore for 445¢.

WEST WHEAL TOLGUS.—March 20: The ground in Taylor's shaft is much the same as for some time past. As the men are regularly at work in the bottom of the shaft a little better progress is being made in sinking. The lode in the 145 end west is harder than when last reported, with less ore, but it is widening; the north wall is gaining north, and the ground by the side of it is soft white killas, precisely the same kind of ground we had by the side of the great bunch of ore in the 135 to the west of No. 1 winze, below the 135. The lode in No. 2 winze appears to be keeping its width. Since our report last week the men have been sinking in the west part of the lode, and the little under the south wall, and the winze goes dry, which seems to be in favour of the lode being productive. We cannot value the winze now to be yielding more than 6 tons per fathom, but when the north part is taken down it may give a better appearance. The lode in the 135 end west is 4 ft. wide, with a little ore scattered all through it; we are glad to see there is water in the lode, and it is increasing. The stopes in the back of the 135 are yielding very well. There has not been any lode taken down in the 125 end west since last report. We have just cut a strong stream of water close to the end, so we shall now take down the lode. There is no lode met with yet in the 125 cross-cut south. There is no alteration to notice in the bargains at Richardson's shaft. We sampled 30 tons of ore yesterday as estimated.

WHEAL CHOBOR.—Andrew March 19: There is no change in the mine since the general meeting held last Thursday.

WHEAL KITTY (St. Agnes).—Stephen Davey, R. Harris, March 16: There is no change worthy of special remark in either of the bargains this week.

WHEAL MARY THUCHINGS.—Henry Miners, March 20: The result of the furnace which was put to work about 10 days ago for calcining the stamps muddle is answering very satisfactory indeed, and we have during the last fortnight commenced and completed the second, and have also lighted the fire in that to prepare for burning to-morrow (Thursday), therefore we may fully expect from the result of the one that our next cleaning-out will show a good return. The lode is still looking well.

WHEAL NEWTON.—H. Bennett, March 21: The stopes in the back of the 40, east of Cook's shaft, are looking splendid. We have found some magnificent specimens of ruby silver, and if the lode continues (as I have every reason to believe it will) we shall have a good sampling by the end of the week. All other points are without any change.

WHEAL PEEVOE.—W. T. White, Joseph Pryor, March 16: Setting Report: The 60 to drive west, on south lode, by six men, for the month, at 6¢. per fathom, lode worth 12¢ per fathom. The 70 to drive west, on south lode, by four men, for the month, at 8¢. per fathom, lode worth 12¢ per fathom. The 80 to drive west, on south lode, by four men, for the month, at 50s. and 52s. 6d. per fathom, lode worth 12¢ per fathom. We also set six men to stopes the side at this level, where the lode is extra large, at 21. 10s. per cubic fathom; this produces stuff of good quality. The 60 to drive west, on south lode, by four men, for the month, at 7¢. per fathom, lode worth 13¢ per fathom. One stopes in back of this level, by four men, for the month, at 3¢. per fathom, lode worth 10¢ per fathom. The 45 to drive west, on south lode, by four men, for the month, at 5¢. per fathom, lode worth 15¢ per fathom. Rise and stopes in back of this level, by twelve men, for the month, at 4¢. and 21. 10s. per fathom, lode worth respectively 25¢. and 14¢ per fathom. The 36 to drive west of cross-cut, on south lode, by four men, for the month, at 8¢. per fathom, lode worth 14¢ per fathom. Rise in back of this level, on south lode, by four men, for the month, at 10¢. per fathom (rise 12 ft. long), lode worth 15¢ per fathom. The deep adit level to drive west of cross-cut, on south lode, by two men, for the month, at 6¢. per fathom, lode worth 9¢ per fathom. We are pleased to say the mine still continues to look well.

WHEAL UNY.—Wm. Rich, M. Rogers, March 1: The rise in the 60 west is worth 7¢ per fathom. The lode in the back of the 180 east is worth 15¢ per fm. The 140 end east is unproductive at present. The 150 end east is worth 8¢ per fathom. The 160 end west is worth 15¢ per fathom. The rise in the back of the 160 west is worth 7¢ per fathom. The rise in the back of this level is worth 12¢ per fathom. We sold on Saturday last 22 tons 5 cwt. 3 qrs. of tin, the produce of the past fortnight.

WHEAL PRUSSIA.—W. Tregay, March 21: Tregay's Shaft: The engine keeps the water well. The lode in bottom of this shaft (sinking by nine men below the 40) will produce 1½ ton of black tin per cubic fathom—6 tons of black tin for 1 fm. of the shaft. The lode in the 40 west, both in the stopes and end, will each produce 1¼ ton of black tin per fathom. The lode in the 30 west end is worth 10¢ per fm. The men are busily engaged timbering the new pump shaft, and we have commenced to sink from surface a new winch-shaft, 40 fms. west from Tregay's. This new winch-shaft will be called Smethe's shaft.

PENSTRUTHAL CONSOLS MINING COMPANY.—A very favourable report, after a two days inspection underground, has been made by Mr. ADAM MURRAY, F.G.S., one of the directors. He considers the mine is nearing great and valuable discoveries. The nature of the ground in which the shaft is going down, the copper ore met with in the 72 (bottom) level east, and the lodes cut in the cross-course have all the same signification—that of the mine becoming in a short time a successful and lasting copper mine. In his circular to the shareholders Mr. Edward Ashmead (the secretary) remarks that it must be borne in mind that the

prospects, however good, cannot be realised without funds, and that no effort of the directors to preserve the property will be available for long, unless the shareholders who have not already done so come forward, as they have been invited, and take up their proportion of the debenture stock. The debts of the mine (due to merchants, and the Lords for dues) are comparatively small, about 100¢. At the instigation of Major Walker, who, as a director, visited the mine with Mr. Murray, the merchants have agreed to wait two and in some instances three months, the company giving bills for the amounts due, while the directors have reason for hoping that the lords will accede to their wishes for a reduction in the rate of dues, and an abatement on the amounts already owing. The future is, therefore, in the hands of the shareholders. The prospects seem to be well worth the last circular, about one-fourth of the required amount has been applied for, mostly from the large shareholders, but this alone is insufficient, the directors, therefore, trust the shareholders who have not responded will make their application. It is very necessary that the small as well as the large shareholders should apply, as more than half the capital is held by members possessing less than 100 shares each. After referring to the various points in the mine, Mr. Adam Murray remarks that of the few matters requiring to be done the first is the engine-shaft, which, being 18 fms. below the 72, forms a long and arduous lift. It is advisable, therefore, that a plan should be at once and a 70-in. pump fixed, in order to continue the sinking with less danger and more speed and economy. The second is the advisability of pushing on the 72 end east by four men instead of two men. The third is to continue the 58 cross-cut south. The fourth is to allow Capt. Polkinghorne to use a little tutwork occasionally, in such places as the 46 eastern branch, to ascertain the character and value of such off-shoots from the lode before they are let to miners. In all other particulars we found the mine and machinery in excellent order, and working most economically, and believe that the time is not far off when it will amply cover its cost and make profits.

FOREIGN MINES.

PONTGIBAUD.—March 1: Roure Mine: The sinking of the engine-shaft has gone on pretty well, and having attained the necessary depth for tip-pit, we have set it to a full pace of men. The 150 cross-cut west has intersected the lode, the first part of which is 2 metres wide, showing strings of ore running through it, altogether presenting a kindly appearance. About 4 metres beyond the cross-cut the cross cut also intersected what appears to be the Emily lode, which also presents a kindly appearance, and yields a little saving work. The 100 cross-cut east towards Virginia's lode, continues in stiff rock. The 80 metre level, south on Virginia's lode, opens productive ground, worth ½ ton of ore per current metre. The same level north is in a strong lode, worth ½ ton of ore per current metre. The rise in the back of this level has been holed to the 60, giving good ventilation. The 60 metre level north yields a little saving work. The 40 in the same direction has fallen off a little, now yielding but little ore. The winze below this level opens good ground, worth 1 ton of ore per current metre. The 30 metre level, both north and south of cross-cut on the eastern part of the lode, yields ½ ton of ore per current metre in each end. The adit north of Virginia's workings is in a strong lode, yielding also ½ ton of ore per current metre. The 40 cross-cut, east of mill-shaft, proceeds well.

Mioche: The adit cross-cut east has intersected a strong lode of unkindly appearance, and letting out much water. The rock beyond looking kindly, we have set to drive a few metres further. We have also set a level to be driven north of cross-cut, on one of the first veins cut, hoping to meet with a favourable change. —La Broisse: The 40, south of Bassett's shaft, is in unproductive ground. We have set to cross-cut towards the south, the course of the level rising towards the 120. The 120 metre level was temporarily suspended to hole a rise behind the cross-cut, is now again set to drive on a lode worth ½ ton per current metre. The 100 metre level has yielded ½ ton of ore per current metre, but is now poor. The 80 metre level is in a strong lode, a part of which is being carried, yielding saving work. The 40, on the eastern part of the lode, has yielded ½ ton of ore per current metre, but is now poor. The stopes and tribute pitches throughout this mine maintain their usual yield, on the whole. The sinking of the new engine shaft below the 60 proceeds well, as also does the rise underneath from the 120 metre level. —La Broisse: The 10 metre level, north and south of St. George's shaft, yields ½ ton of ore per current metre in each end. The 90 metre level north is unproductive. The same level south has been communicated to the 90, north of winze, thereby abolishing a good current of air, and opening a good length of productive ground. The 90, south of winze, yields ½ ton of ore per current metre. The 70, north of St. George's, yields ½ ton of ore per current metre. The same level south is unproductive. The 50 metre level north yields a little saving work. The same level south is suspended, and a winze set to sink over this point from the 30 to prove whether we have the whole of the lode; the winze produces ½ ton of ore per current metre. We have commenced a trial at Villeneuve by driving a cross-cut to intersect the lode in some rising ground to the south of the point where it was discovered, but have not yet met with it. Surface: Our dressing operations have been carried on without interruption, and the samplings have amounted to 266 tons.

PE-TARENA UNITED.—March 18: District Pe-tarena: The lode in the bottom of the new incline shaft continues to give about 6 tons per fathom: worth 1 oz. of gold per ton. The lode in the 100 end north is somewhat improved. In the end south no change, yielding about 4 tons per fathom, worth 15 dwts. per ton. The lode in the end of the 90 north bids fair for a change for the better, and the end driving south at this level continues to open up productive ground of about 5 tons to the fathom, worth 1 oz. of gold per ton. The lode in the 80 north is small at present. The end south of the 65 cross-cut on No. 2 lode has improved, yielding now 3 tons per fathom. The 55 end north, driving under Aquavite, is not looking so well. No change in the winze in this level. The lode in the end of the 33 in Aquavite is giving about 2 tons per fathom, worth 18 dwts. per ton. Up to this time we have resumed only three of the stopes, two in the back of the 90 fm. level and one in the back of the old 55 level in Aquavite department, producing their usual quantity of good ore. We hope to be able to resume a few other stopes shortly, but this will depend on the increase of water in the Anza River. On the 11th we started the two additional mills in No. 2 mill-house, where we have eight mills at work, and five mills working in No. 1 mill department—11 in all. The remaining seven will be set to work so soon as the water of the river be sufficient; we had hoped it would be about this time. We have had very little snow this winter, and are sorry to say that the frost has set in again during the past few days, which is rather making against us; but we hope to see a change in the weather for the better soon at Pe-tarena district.

District Val Toppa: Western part of Great Quartz Lode: Intermediate Level below Zero: The lode in the end north of cross cut has improved, producing now 3 tons per fathom, and a small mill trial will show it to be worth 18 dwts. 3 grs. of sponge gold per ton. In the end south of No. 1 level we have also an improvement, producing now 6 dwts. 16 grs. of sponge

FOR COPPER, TIN, LEAD, &c., apply to—
MESSRS. PELL, BOYLE, AND CO.,
SWORN METAL BROKERS,
ALLIHALLOWS CHAMBERS, LOMBARD STREET, LONDON.
 (ESTABLISHED 1849.)

METAL MARKET—LONDON, MARCH 22, 1878.

IRON.				TIN.			
	£	s.	d.		£	s.	d.
Pig, GMB, f.o.b., Clyde.	2	11	1	English, ingot, f.o.b. . . .	63	0	—
" Scotch, all No. 1 . . .	2	10	6	" bars " . . .	60	0	—
Bars, Welsh, f.o.b. . . .	5	0	5	" refined . . .	70	0	—
" in London	5	15	0	Australian	64	0	—
" Stafford	7	0	0	Banca	66	0	—
" in Tyne or Tees . . .	5	10	0	Straits	64	0	—
Swedish, London . . .	15	10	0	COPPER.			
Rails, Welsh, at works.	5	0	5	Tough cake and ingot.	69	0	—
Sheets, Staff., in London	8	10	0	Best selected	71	0	71 10 0
Plates, ship, in London	7	0	7	Sheets and sheathing . .	74	0	—
Hoops, Staff.	7	15	0	Fiat Bottoms	78	0	—
Nail rods, Staff. in Lon.	6	10	7	Wallaroo	74	10	—
STEEL.				Burma, or P.C.C.	72	10	73 0 0
English, spring	13	10	0	Other brands	69	0	70 0 0
" cast	30	0	40	Chill bars, g.o.b. nom.	64	0	—
Swedish, keg	15	10	—	PHOSPHOR BRONZE.			
" fag. ham.	16	0	—	Bearing metal	2112	0	0 0
LEAD.				Other alloys	2120	0	140 0 0
English, pig, common . .	17	10	0	BRASS.			
" " L.B.	17	15	0	Wire	8½	d.	—
" " W.B.	18	10	0	Tubes	10½	d.	—
" sheet and bar	19	0	—	Sheets	9½	d.	—
" pipe	20	10	0	Yel. met. sheath. & sheets.	4½	d.	—
" red	20	0	20	Nails composition	8½	d.	—
" white	27	0	0	TIN-PLATE, per box.			
" patent shot	23	0	—	Charcoal, 1st quality . . .	1	0	0
Spanish	17	5	0	" 2nd quality	0	19	6
NICKEL.				Coke, 1st quality	18	0	0
Metal, per cwt.	13	0	0	" 2nd quality	0	17	0
Ore, 10 per cent. on ton	24	0	0	Black	0	10	0
QUICKSILVER.				Canada, Staff. or Glas. . .	11	10	0
Flasks of 75 lbs., ware.	7	2	6	" at Liverpool	11	10	0
SPELTEN.				Black Taggers, 450 of . .	30	0	0
Silesian	18	12	6	14 X 10			
English, Swansea . . .	21	0	0				
Sheet zinc	22	0	23				

REMARKS.—The position of affairs generally is unaltered, and there is not the slightest improvement to report in the ordinary demand for any one metal, and we do not see very well how any can be expected yet awhile, for the effects of two gigantic evils, in the shape of war and famine, have first to be overcome, and before that can be accomplished it will absorb a considerable amount of time and money. A great deal has been done in and for India to alleviate the sufferings of the natives, and the relief afforded has doubtless proved sufficient, but beyond this little could be done but to wait patiently for the return of another season, in the hope that it might restore things to their normal condition; everything, therefore, for the present remains in a languishing state, and we can only hope that the new crops when secured will be abundant, and in some measure make up for the previous failures. The Indian trade is also greatly affected by the present low rate of exchange, and the prospect of increased taxation to repair the finances of the exhausted and exhausted Government, but help to improve matters. We can scarcely look for any new or extensive undertaking being put in hand by the Indian Government, and whatever demand may exist will depend chiefly upon the ordinary requirements of the people, who are very much enfeebled by their impoverished condition. The famine in the North of China has produced a very depressing effect upon trade in these parts, and the account recently received of the privations and afflictions of the poor inhabitants is most heartrending. The Cape houses complain more of the loss occasioned by the drought there than from the ravages of the locusts, and the loss of the wheat crop has been less than in the previous year, but the wheat crop has been less than a year. In Ceylon and certain parts of South America the last crops were mostly failures, and the people are not in a position to trade more than to a very limited extent, and to give them credit and press the sale of goods upon them is only increasing their difficulties.

It is very unfortunate that all these misfortunes should happen so closely upon one another, and no short interval of rest given, but perhaps the return of prosperity will be all the greater when it does come, and we shall then appreciate it so much the more. But what are the chances of peace? Because without peace there is no prospect of prosperity. It is a question of the future, and we cannot say. Well, there is nothing of reassurance character as yet transpired to lead us to form a favourable opinion of the political situation of Europe. Great Britain simply asks for the truth to be told, and in this at least we are united, and we believe the request is endorsed by every Englishman, and no subterfuge whatever will satisfy any one of us. We wish for honesty, truth, and justice, and if these are not to be upheld it is better that Great Britain declined to enter the Conference.

COPPER.—Holders of Chili bars have shown more disposition to sell, and several parcels of good brands have changed hands at lower rates, principally about 64*l.* 10*s.* It would have been better had holders commenced to sell earlier, when a larger demand existed for manufactured; however, they will, probably, have no cause to regret the sales just made, for higher prices for some time to come are almost impossible, whereas lower prices are not improbable. Under these circumstances holders have done wisely in effecting sales, and we firmly believe if they should desire hereafter to replace their copper they will experience little difficulty in doing so, on more advantageous terms than previous contracts, and we hope they will be induced to operate again at a more propitious season, with a view to make good their losses, which they have witheld their stocks from the market. The holders of the only have been foolish but ungracious, and we are sure they will feel greatly relieved in having parted with them. Our market this week has continued its downward course; not only Chilean, but Australian and English have all suffered further depreciation. The Indian demand for manufactured has been very indifferent, partly owing to holidays in Calcutta and Bombay during the fore part of the week, and also from the low rate of exchange, which is considerably interfering with the execution of orders.

On Monday the 10th of March for Chilli for the first fortnight of March were cabled as 2000 tons, consisting of 1850 tons bars and ingots, and 150 tons furnace stuff for the United Kingdom, and 200 tons bars for the Continent. The quantity advised is large, considering the previous announcement and the dull state of the market; but, in addition to this, the price comes lower from Valparaiso, which is a move in the right direction. We are, however, great advocates of enhanced prices in good times, but we are strongly opposed to dear prices in bad times, and flittitious prices at all times.

Exceptional stages of the market often require exceptional remedies and treatment, and as the present period is one of extreme languor it is necessary to have recourse to extraordinary measures, and administer a strong stimulus in the shape of unusually low prices to restore vitality, as no other remedy will be found nearly so prompt and efficacious, and sellers should readily comply in making the needful concessions. But although we believe we have the vast majority of the trade feeling the same, and that the market is generally giving place to a more or less healthy condition, we are not at all surprised to find our opinions are so totally different ones, and we were not a little surprised to read the following in the columns of this Journal a commentary on the eminently truthful circular recently issued by the old established and highly respected firm of Messrs. Rogers, Sons, and Co. We have no doubt those gentlemen will reply to it in an intelligible manner, notwithstanding the buttering epithet introduced as a salve for the opposition expressed to their personal opinion. In justice to Messrs. Rogers, Sons, and Co. we think it right to remark that we entirely concur in their opinion, and we wish to say we were not surprised to find that the trade was of the opinion that it was not very easy to follow the train of argument adopted by the correspondent who contributed "The Copper Trade, and its Prospects," for in the first place he states that "everybody acquainted with the feeling now prevalent in the copper market must endorse Messrs. Rogers' words," and then he goes on to try and "prove" that because the opinion is universal experience shows that whatever is expected by everybody never comes to pass. His explanation is equally puzzling, and we do not state the full force of the argument, but we think that the "bad opinion" it is badly supplied. As to the "good opinion" at the present time, we state that it is not a bad one, and about this there is no question, but if he means to assert that we are, or are likely to be, badly supplied it does not apply, and it is altogether an erroneous supposition, and, as figures are quoted in support of his statement, we also give the following figures, to show there is no scarcity or falling off in supplies:

Stocks of copper in Europe and afloat for Europe	March 1, 1878...	Tons.	47,241
"	March 1, 1877...		46,141
	Total increase		1,100
Actual stocks in Europe	March 1, 1878.....		33,305
"	March 1, 1877.....		28,469
	Total increase		4,836
Actual stocks in England	March 1, 1878.....		20,955
"	March 1, 1877.....		15,379

Total increase 5,696

Whichever way the statistics are viewed, whether collectively or separately, it matters not, for it will be found there is a positive increase, and a very great increase, in the actual stock in England; and, consequently, it is a mistake to state that the consumption during the last month has increased between 7000 and 8000 tons. The fatal mistake which the latter statement has introduced into the *seems* to have made is in assuming that because the visible stocks at two different periods amounted to about the same the consumption must necessarily be the same. This is an incorrect conclusion to have arrived at, and he should have been guided more by actual stocks, as they form a better criterion of the rate of consumption. What there is in the present year to warrant the expectation that the consumption will be greater than that of last year we are at a loss to conceive, and we are bound to observe that, in the other countries, no such increase is to be seen. We fail to discover any substantial reason for forming such an opinion, but as far as our own personal interests are concerned we only hope it may be true. To rely

upon Russia increasing her demand to such an extent as to cause a diminution in stocks, and higher prices to follow when that country is so much exhausted from the war, and may, perhaps, shortly have the whole of her ports blockaded, is about as feeble a stand as anyone could possibly have advanced. With regard to the English smelters, we are informed they are fully covered, besides they are not at all a speculative body, and are far too cautious to commit themselves to chance by making sales over and above their stocks. Our experience is quite the reverse of that which is attributed to them of overselling, for they have repeatedly refused business instead of accepting it in instances where they could not cover with the raw material; and further that they can only cover their requirements by the sale of their own stocks. The following quotations for 1870 show that the demand for tough cake has just been satisfied in France at 67 $\frac{1}{2}$ to 67 $\frac{3}{4}$ 10s. This will show that the stocks in the hands of English smelters are still large, and that the French demand is now pretty well satisfied. The price for tough is the equivalent of about 61 $\frac{1}{2}$ for Chili c.o. b.s.: Touching Lake Superior, we hear of large quantities being offered at 76 $\frac{1}{2}$ c.i.f. Continent, which is the parity of about 77 $\frac{1}{2}$ 10s., less 2 $\frac{1}{2}$ per cent., here; and as Wallaroo has recently been quoted as high as 74 $\frac{1}{2}$, we are inclined to doubt whether 81 $\frac{1}{2}$ per ton value was ever declined for a large quantity of Lake.

The production of copper in the United States and the English colonies' own returns, since the year 1870, are as follows:—In 1870 it amounted to 3800 tons; in 1871 to 6000 tons. The arrivals of Wallaroo since last sale are large, and stocks in importers' hands are estimated over 1600 tons. Other brands of Australian copper have lately been sold from 70 $\frac{1}{2}$ to 69 $\frac{1}{2}$, and we are given to understand that there is more to be had at the same price. With reference to the principal importer of Chili, we only hope that whatever copper he may have disposed of it has gone into hands equally strong and capable, and that the market will not suffer by the changing of hands.

We never knew the market less "beared" than it is at present, for few are inclined to risk such sales without getting a greater margin than buyers are willing

IRON.—The amount of business transacted in iron at the present time is about as limited as it is possible for it ever to be, and if the works were dependent upon the orders received from London we fear that they would very soon be brought to a standstill. Merchant orders have been particularly scarce this week, and there appears little chance of immediate improvement. Enquiries, however, continue to be made for moderate quantities, but at limits which are wholly impracticable and utterly useless to the works as long as the existing scale of wages is maintained; for the acceptance of lower prices without a corresponding reduction in wages would only add to previous losses, and which it is very necessary to avoid, after having already sustained more loss than many of the works are able to bear. The future very much depends upon the action of the men, and it chiefly depends upon them to decide whether they will temporarily accept a reduction in wages, or whether they will continue to hold out for the full rate.

lower wages or let the orders go out of their hands. We know which of the two is the more conducive to their welfare and happiness, and we should think that past experience and present suffering would lead them to choose the former. To adapt themselves to circumstances upon the principle that half a loaf is better than none at all; whereas, if they persist in obstinately refusing to work on modified terms, they will not earn enough to live upon; and diminished as the production has hitherto been, it will wind down to still smaller dimensions. The revival of business does not altogether rest upon the course which politics may take, and even supposing a pacific solution is arrived, at there are other matters to overcome that will take a great deal of time to recover from. The manufacture of iron in this country will only improve by our selling it at cheap or cheaper than that of other countries. Who will the advantage of the iron in English houses unless they can do as well as foreign firms? Many buyers have for a long time stood out rather than risk foreign makes, but they cannot do so any longer, and they are forced to buy Belgian against their will. The longer the reduction is delayed the greater the loss to the trade and the English nation. If any think we are unnecessarily severe upon the working classes they make a mistake, for we have no such desire, but have their interests too much at heart, and should rejoice exceedingly to see them doing better; but we know full well that if they sit idling their time away because they cannot realise what they want, they will come to beggary, and we will not help the advance of the working classes by placing them in their proper position; no, that we are insensible to their privations, but we think they are needlessly increased by the maintenance of the present system. Capital and labour have hitherto been opposed to one another, let them now work harmoniously together. The one is equally as essential as the other, and to ensure success both capital and labour are absolutely necessary in the employment of trade. If a man wishes to improve his position he must be industrious and work long hours, and it is just this last condition which the working classes are opposed to; but they must conform to the necessities of the times, and the working classes know that capital employed in the trade should be unremunerative, for in that case it is only a question of time as to when it will be withdrawn, as capitalists would sooner lock it up than employ it unprofitably.

primary. Markets for this metal are reported to have kept exceedingly dull all the week, and little or no improvement either as regards prices or demand has shown itself. Orders are particularly scarce, and the works are only barely employed. Prices, however, have in most cases remained steady, and without any material alteration. Great uneasiness seems to be experienced by the masters as regards the future, and it is evident from the returns of the various producing districts which reach us daily that much uncertainty prevails in the minds of sellers as to the advisability of their making a reduction in their quotations. Although the wages question has been the source of much anxiety and discussion during the last few weeks, nothing definite appears to have been settled yet. This of itself is one of the great detentions of business, so we strongly advise those who have anything to do with it to settle the question at once, as if they delay much longer they may regret it. The whole trade flows away to another district. The reports from Leeds are not so distressing as they have been lately. Although the request for common qualities is small, the demand for better kinds appears to be very fair. Prices, however, have remained nominal, masters refusing to reduce their quotations. Business in the Rotherham district is said to be in a most sluggish condition, and that the works are anything but satisfactorily employed; many in the neighbourhood are lying altogether idle, while those that are in employment are but working short time in the execution of a few straggling and small dimensioned orders. The trade is reported dull at South Durham, with very little variation either in the demand or quotations. Merchants who have orders appear to be holding them back until some reduction be made in prices, which is expected to take place before long, as it is thought that the Ironmasters Association will be broken up, and several iron works have been known to reduce the current rates, and to discontinue the Association for a time. As herefore, this is a time when small concessions to be made; but as it is believed that prices are now at their minimum no marked difference is anticipated. Plates, however, appear to be more active, at 67. 5s. to 67. 10s. per ton. The demand for bars is small, and last week's prices rule the market—57. 12s. 6d. per ton for common qualities. Angle Iron is procurable at 57. 1s. 9d. per ton. The works are in employment only about half time.

Makers having made some slight reduction in their prices for pig-iron in this district, the demand has somewhat improved, and a fair amount of business has been transacted, at 40s. for No. 3, less the usual commission. Stocks, however, continue very high, and the returns show an increase of about 400 tons during the past week. Several furnaces are reported to have been blown out, and more are expected to be put out of blast before long. Manufactured iron shows a very little variation, the demand continuing particularly strong, and prices are accordingly high, the price of iron being made in South Wales being considerably below the above prices. Although the advices from Barrow-in-Furness state the stocks for pig have not increased, still it is reported that business keeps in a most sluggish condition. Bessemer is the only iron that shows any activity, and transactions are carried through at 64s. for No. 1, 62s. 6d. for No. 2, and 61s. for No. 3. Finished iron is extremely slack, and prices as last quoted continue to rule the markets. Rails at Sheffield are procurable at very low rates, 6s. 1s. 6d. having been accepted. Nothing of much note is reported from the district except that the strike expected by the masters to have made a reduction in the engineers' wages of 2s. per week, and the men appear to prefer idling away their time to agree to the concession.

away their time than to agree to the concession. In the case of Newcastle, as masters have been unable to keep up their former quotations for Cleveland pig-iron. Business having been transacted at 6d. per ton less the demand has become somewhat firmer, and many orders that have been held back have now been put forward. The Birmingham market is reported dull, and hematite brands have become somewhat easier prices. However, 2s. 6d. to 3s. per ton for Derbyshire and Yorkshire brands are still asked. In the market for iron, the market has fallen off, and all unbranded bars remain without change. The Crook Hay Works, at Wednesbury, are expected to re-open shortly.

The American market is reported dull and without change; no. 1 X being quoted \$18 to \$19; No. 2 X \$17 to \$18; and forge, \$16 to \$17. The sales for Scotch are unworthy of note, merely being those to meet immediate requirements. Coltness is obtainable at \$25; Glengarnock, \$24 50 c.; and Eglinton at \$24. Scrap is dull and without change, and we quote for No. 1 wrought \$22 to \$23 from yard. Rails are in fair request at \$33 to \$36; and old \$19 50 c. to \$20. It is reported that 10,000 tons steel rails have been ordered by the public works for the manufacture of gun remains, but poor demand, and prices show no material alteration. The warrant market at Glasgow has been very quiet all the week, business transactions having been chiefly carried through for \$54d. for prompt cash. The market for Scotch pig-iron now close at 51s. 1d.

SHIPMENTS.	
For the week ending March 31, 1878	Tons 8,662
For the week ending March 17, 1877	7,280
<hr/>	
Increase	1,382
Total decrease for 1878	3,718
<hr/>	
Imports of Middlesbrough pig-iron into Grangemouth :—	
For the week ending March 17, 1877	6,340
For the week ending March 16, 1878	Tons 5,370
<hr/>	
Decrease	990
Total decrease for 1878	9,927
<hr/>	
FURNACES.	
In blast March 17, 1877	119

In blast March 16, 1878. 87
LEAD.—This metal is dull, and prices continue on the decline. English pig is quoted at 17*l*. 15*s*. per ton, while soft Spanish without silver is procurable at 17*l*. 5*s*. to 17*l*. 7*s*. 6*d*. per ton. The price of sheet lead is 18*l*. 15*s*. to 19*l*. per ton. The New York market is said to be very dull, and prices are reported as being extremely low; domestic is much depressed. It is stated that 300 tons have been sold at 3*¢* c., the market price being 3*¢* c. to 3*¼* c. Bars are quoted 5*½* c.; pipe, 6 c.; sheet, 6*½* c.; the imports being 9323 pigs for the first two months of the year, as compared with 43,696 pigs in the corresponding period of 1877, or showing a decrease of 34,464 pigs.

SPELTER.—This metal has been very quiet all the week, and business has been very limited. What few transactions have taken place have been done chiefly at 15 $\frac{1}{2}$ 10s. to 15 $\frac{1}{2}$ 12s. 6d. per ton for ordinary brands. It is reported from New York by the mail of the 6th inst. that foreign spelter there remains entirely nominal, while

domestic meets with very little attention, but is quoted at 5 $\frac{3}{8}$ c. to 5 $\frac{1}{2}$ c. as to brand.

TIN.—Our market has been tolerably steady, the price of foreign ruling about 63 $\frac{1}{2}$ 15s. per ton. Holders are anticipating a falling off in supplies from Australia shortly, as the wool season will soon be over, and the heaviest shipments have usually been made at that time, owing to the low rates of freight that are then taken. Sellers, however, should not expect too much just yet in the shape of any improved price or demand. In the first place trade and policies are still unsettled, and may become increasingly so, and secondly, there will be one of our customers, namely, the Japanese, who is not able to bear with a severe reverse should make himself secure before it is too late. We, of course, all hope for the best, and trust that peace will ensue, but we must not allow principle to be sacrificed for gain, even though we have to uphold "right against might" with the loss of blood and treasure. The Easter holidays will also interfere with the ordinary consumption of metals. From New York on March 9 it is stated that there is little or no improvement in the demand for pig, holders present a firm front, and the market, more particularly as regards the small size, is somewhat stiff, prices for this description being relatively as low as some weeks hence, though the current in Singapore and Penang, being far from point to the yet very considerable supply in prospect, some 20,000 slabs being on hand for the United States.

QUICKSILVER.—The past week has been the exact counterpart of the preceding. On Monday a good business at 7*l*., whilst on other days 7*l*. 2*s*. 6*d*. was asked, without any sales worth mentioning.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday evening. The Glasgow market for Scotch pig-iron has been quiet this week, and prices have experienced but little change. To day the market has been firmer, and closes with buyers at 61s. 1½d., sellers 51s. 2d., a fall in price since last Friday of 3d. per ton. The price at the close last week was 54s. 5d. Makers' iron is unchanged; we quote makers' No. 1: Gartschierie, 59s.; Coltness, 64s.; Calder, 69s.; Langloan, 61s.; Summerlee, 59s. 6d.; Monkland, 59s. 6d., f.o.b. Glasgow; Gleggarnock, 57s. 6d.; Eglington, 59s., f.o.b. Ardrossan; Shotts, 60s., f.o.b. Leith; Kennie; 54s. 6d., f.o.b. Bu'ness. At Barrow Exchange on Monday hematites were firm, Bessemer iron somewhat easier. The advent of the shipping season will probably cause several furnaces to be blown in, stocks being light. At Middlesbrough on Tuesday prices were unsettled, and the market weak, though more business was done than for some time past. The official quotations are no longer maintained, and No. 3 was bought recently at 40s. 6d., and even 40s. The stock in Connal's storehouse last night was 55,900 tons, and is expected that the same will submit to a reduction of 7½ per cent. demanded by the manufacturers. The quarterly statement issued by Mr. Waterhouse on Tuesday to the Board of Arbitration shows that prices of manufactured iron have receded 3s. 3½d. per ton, the average for the three months ending Feb. 28 being 67s. 7s. 4d., against 67s. 10s. 7½d. for the quarter ending November, 1877.

At Wolverhampton, yesterday, the same feeling existed. Several large orders for finished iron are on the market for forward delivery at present prices. The sales of pig-iron have not been large or numerous, but prices are firm for all the leading brands. Messrs. Noah Hingley and Sons manufactured and sent out last week 10,000 tons of finished iron at 10s. 6d. per ton. The Works of Messrs. Hingley and Sons exported iron and steel in the month was 32,445 tons, valued at 237,690*l.*, against 17,396 tons, valued at 136,994*l.*, in February, 1877. There is no improvement in the price of tin-plates, and in the metals there is no change.

Messrs. HARRINGTON, HOBAN, and Co. (Liverpool).—Arrivals here during the fortnight of West Coast, S.A., produce:—Aconcagua, from Valparaiso, 550 tons bars, 175 tons ingots; Britannia, from Valparaiso, 8 6 tons bars, 50 tons ingots.—At Swanaea—Sagor, (from Carrizal, 7 tons regular), Hawkeye, from Topocilla, 453 tons ores, 338 tons regular; Capatzen, from Carrizal, 535 tons regular; Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	420	917	12,358
Swansea	2189	5345	1,805
Total	2609	6262	14,163

Total 2809 6263 14,183
Representing about 17,503 tons fine copper, against 17,418 tons Feb. 28 : 14,219 tons
March 15, 1877; 11,431 tons March 15, 1876; 11,912 tons March 15, 1875. Stock of
chill copper in Havre, 8700 tons fine, against 12,045 tons March 15, 1877; stock of
chill copper most and chartered for date, 11,900 tons fine, against 12,700 tons
March 15, 1877; stock of foreign copper in London, chiefly Australian, 5100 tons
fine, against 3584 tons March 15, 1877.

According to the Board of Trade Returns, the imports and exports into and from
this country for the first two months of the following years were—

IMPORTS.	1876.	1877.	1878.
Copper in ores	1,719	1,310	1,894
Do., regulus	2,806	2,370	2,008
Bars, cakes, and ingots	5,905	6,485	5,384
In pyrites, estimated	2,671	2,788	2,595
Total	13,101	12,933	11,771
EXPORTS.			
English copper, wrought & unwrought	3,082	3,469	5,819
Foreign copper—unwrought	2,616	2,574	2,307
Yellow metal	2,008	2,431	2,656
Total	7,706	8,774	10,782

The MINING SHARE MARKET has been much more active this week, and a considerable amount of business has been transacted in a few prominent mines at advanced rates, though, generally speaking, there is not much difference in ordinary quotations since our last, and many of them are still merely nominal.

TIN MINES have been, with one exception, flat, and without change. South Condorhow have been in good demand, and have advanced from 9½, 10, to 11, N½. Wheal Basset, 6 to 8; at the meeting the accounts showed a loss on the quarter of 1138s., and a debit balance of 7044s. A call of 1½ per share was made. Penstruthal, 4s. to 6s.; a very favourable report has just been circulated by Mr. A. Murray, who believes the time is "not far off when the mine will amply cover its costs, and make profits;" in the meantime money is required, and the directors urge upon the shareholders the necessity for taking up their proportion of debenture stock, which does not amount to more than 2s. per share. Carn Brea, 42½ to 45; Dolcoath, 31 to 33; Tincroft, 10 to 12; West Godolphin, 1½ to 1¾; Wheal Agar, 4 to 4½. Wheal Grenville, 3 to 3½; at the meeting a call of 5s. per share was made. Wheal Peewor, 6 to 6½; Wheal Uny, 17s. 6d. to 22s. 6d.; Livingstone, 15s. to 20s.

COPPER MINES continue dull, with scarcely anything doing. At the ticketing on Thursday the standard for ore declined 2*l*. 10*s*. per ton. The average price realised 2*l*. 19*s*. 6*d*. per ton only. Devoe Great Consols, 3 to 3½; this mine sold 856 tons for 180*l*7. 2*s*. 6*d*., a large portion of it fetching under 1*l*. 10*s*. per ton. South Caradon, 80 to 85; the sale here of 470 tons realised 2287*l*. 14*s*., 100 tons of it fetching over 10*l*. per ton. At the meeting on Tuesday the accounts showed a profit of 401*l*. on the quarter, and a dividend of 1*l*. per share was declared. The copper ore sold realised 831*l*7., the costs 8030*l*. The report states that notwithstanding the very low and depressed state of the copper market, the agent is pleased to say the mine is still looking well, and continuing to yield the usual quantity of as good quality ore as it has for many years past. West Seton, 10 to 12; the lode in the 140 west is worth 3 tons of copper ore per fathom. West Tolgu, 71 to 73; Parys Mountain, 8*s*. to 10*s*.

LEAD MINES have been in fair demand, and prices fully maintained. Van, 24 to 26; Great Laxey, 194 to 204; D'Esresby Mountain, 55 to 65; D'Esresby Consols, 10 to 124. Roman Gravels, 8 to 8½. The sale of lead ore for the month—180 tons—realised 2022½, and 30 tons of blende 115½ 10s. South Darren, 35s. to 40s.; the lode in the shaft is improving, now producing saving work for lead; the 100, west of winze, is worth 10½ per fathom; and the winze below the 90 45½. The stopes in the 90 average 25½, and the 80 32½ per fathom: 40 tons of lead ore were sold on the 16th for 663½. East Van opened this week 3½ to 3¾, and have fluctuated daily. On Wednesday they were quoted 6½ to 7, Thursday as high as 6 to 6½, Friday 6 to 6½, and leave off flat at 5½ to 6. At the 55 fathom level cross-cut, south from Tempest shaft, 7 fms. have been driven, 5 of which have been through ore ground, and the last 2 fms. produce good saving work. Leadhills, 3¾ to 4; Herodsfors, 7 to 8; North Laxey, 33s. to 5s.; Bodidris, 1 to 1½; Tyn-vn-fron, 13 to 14.

At Cargoll meeting a call of 5s. per share was made. The loss on the quarter was 812s., and the debit balance 529s. Pandora, 10s. to 20s.; this mine is looking well. The 33, south of Pyne's shaft, is worth 1½ ton of lead ore per fathom. Goddard's lode south at the 33 has drained the level above, so that a winze can be continued in good ore ground. The 33 north is worth 2 tons of lead ore per fathom. Temple, 2½ to 3½. Tankerville, 3 to 3½; the sampling is 100 tons of lead ore. At West Tankerville the sale of lead (40 tons) realised 445s. Glenroy, 15s. to 20s.; the mine has sampled 26 tons of blende. Wye Valley, 1½ to 2½; West Wye Valley, 3½ to 3s.; Caron, 2½ to 2½ (cum div.); North Cornwall, 5s. to 5s. Rookhope, 17s. to 19s.; the sampling this month is 50 tons of lead ore for five weeks, and the mine looking well. Grogwinion, 3½ to 3s.; the sampling of lead ore is 150 tons, or 50 tons beyond the usual monthly quantity. South Cwmystwith, 3 to 4; this mine has just sampled the first parcel of lead ore (40 tons), for sale on the 27th instant.

FOREIGN MINES.—Blue Tent, 3 to 3½; Huftafall, 5 to 5½; Chontales, 11s. to 13s.; the advices show a loss of 107. 13s. The gold returned was 238 ozs., valued at 620*l*. From Frontino and Bolivia,

the advice
5a. to 7a.
penditur
with wa
show a h
and Auro
10s. to 1
Phillip, I

The Ma
evidence
not been
spectus v
capital of
taking ov
gage deb
ing 3500
money in
crave Co
South W
generally
is enter
come pr
pended
Daniel no
purchase
at presen
the conce
handsom
with a ca
out the cl
uttable c
like, and
phen v. C
this week
upon bor
extortion
it is unde
able term
probable
morandu
business v
so that at
Notwit
raised its
continues
decided re
vernment
per week.
The sha
neously a
zilian," ar
together w
presenting
tributed a
pears in a
St. John
states that
was 10,000
per ton.
would be
The advic
though lo
tory. Wi
has been t
new wester
per bo
W. William
the stateme
in the Jour
property ar
a third part
have as muc
company, u
St. John
ing decline i
the reason o
made it was
not a stick
enough to
a threshol
or in comm
aware of the
upon them.
as well as M
Don Pe
that the pr
value of 2
Vivian (Fe
chinery, the
well, especia
the whole of
some time
received on M
old discove
videncia) 1 f
On Feb. 1 Mr
considerably
under the sil
the slide
under the tr
that level of
of the slide
favour of a p
telegram is
The late
that what a
ver the At
enhanceme
tration of
seeking for
up and dev
of the capi
acknowledg
Arizona. M
strong, capab
upon a fresh
on prospects
Cotoacac
producing s
scheme no p
fully up to th
pon mills has
in full oper
ingia lifted o
into the Com
in a thousan
at the top of
of boiling w
waist up—
out of a pond
meas must w
The one w
It is a
One would
Theumatism
not endure
pumped from
hurts them
Richmond
at Eureka s
of ore. The
ectors and
will be then
ions at the
letting exc
any refine
providing
vention, wh
specially refi
not over from
sues required

the advices, under date Jan. 7 show a loss of 12½. 6s. 10d. Javali, 5s. to 7s.; the gold returned for the month is valued at 1400l.; expenditure, 987l. The dry season has set in, and no hope of working with water till June or July. From Santa Barbara, the advices show a profit of 324l. 3s. 5d. The gold return is 1469l. 4s. Eberhardt and Aurora, 5½ to 6½; Flagstaff, 10s. to 15s.; New Zealand Kapanga, 10s. to 15s.; New Quebrada, 1½ to 2; Pestarena, 5s. to 7s.; Port Phillip, 10s. to 12s. 6d.; Richmond, 9½ to 10½.

The Market for Mine Shares on the Stock Exchange has given evidence of a better feeling, but the amount of business done has not been materially larger. The Ynisedwyn Company, whose prospectus will be found in another column, has been formed with a capital of 60,000l., in shares of 1l., to purchase (in consideration of taking over about 15,000l. liabilities, to be paid in cash, and a mortgage debt of 43,750l., which may be paid off gradually, and of paying 3500l. in fully-paid shares, making about 62,250l. purchase money in all), and work the well-known Ynisedwyn and Abercave Collieries and the Ynisedwyn Steel and Iron Works in South Wales. The property was, until the recent depression, generally considered as a highly prosperous concern, and no doubt is entertained that upon the revival of trade it will again become profitable. It appears that about 157,000l. has been expended on the property and plant, and the valuation of Messrs. Daniel now places it at 137,472l., between which and the 62,250l. purchase-money there is a wide margin. It is estimated that even at present prices the annual profit will be (the transfer relieving the concern of financial pressure) over 11,600l., which represents a handsome return upon the 60,000l. capital. The Advance Bank, with a capital of 250,000l., in shares of 5l. each, is formed to transact the class of business which is at present done by that respectable class of money lenders who lend on bills of sale and such like, and by certain classes of bill discounters. The cases of Stephen v. Cochran and Cochran v. other parties, which have been this week before the courts, show the exorbitant charges made upon borrowers, and also that judges will not willingly sanction extortion of this kind; so that if the Advance Bank be prepared, as it is understood they will be, to make their advances on more equitable terms, and to guarantee greater fairness to the borrower, it is probable that they may find a good field for operations. The Memorandum of Association is so wide that the Bank could do any business whatever in which money, real or imaginary, is employed, so that at least some profitable work ought surely to be found. Notwithstanding the announcement that the Bank of Bombay has raised its rate of discount from 7 to 8 per cent., the silver market continues inactive, bars remaining unaltered, at 54½d. per oz. No decided revival of the demand for silver is expected while the Government drawings in bills on India continue at the rate of 500,000l. per week.

The shareholders in "The Brazilian Company" (extinct), erroneously advertised in the Journal of Dec. 29 as the "General Brazilian," are being sought with a view to ascertain whether 18,000l., together with a much larger sum previously received by persons representing themselves as directors of the company, has been distributed among the shareholders. The corrected advertisement appears in another column of this day's Journal.

St. John del Rey, 320 to 325; the telegram received on Monday states that the produce for the first division (eight days) of March was 10,000 oits., the ley of the ore being 60 oits. per ton, or 75 oits. per ton, according to the old measurement. The value of this would be about 3875l. The profit for January was 8232l. 3s. 2½d. The advices state that the gold produced for the month of January, though lower than that for December, may be considered satisfactory. Within the period an unusual amount of low-grade mineral has been treated, consequent on the extension and deepening of the new western sections. The output of mineral (6500 tons) has been large, and the way for borer fair, considering the nature of the work performed. Mr. Charles W. Williams, of Serra de Cocas, desires that it may be explained with regard to the statements made with reference to Culaba at the St. John del Rey meeting, in the Journal of Dec. 29, that the Culaba Company mentioned, purchased in 1870 property far in excess of that now purchased by the St. John del Rey, which is not a freehold, but part of a property held by other proprietors or owners, and who have as much right to work on any part and at any time as the St. John del Rey Company, under the purchase, which he considers is not a convenient position for the St. John del Rey. Mr. Williams, who was the first to announce the approaching decline in the ley of the ore when it was averaging 10 oits. per ton, alleges that the reason of the unfavourable purchase mentioned was that the gentleman who made it was unacquainted with the laws of the country. He adds that there is not a stick of timber on the property, and that the ley, instead of 8 oits. per ton, gives as far as seen but 1½ to 2 oits. per ton. The great body of the ley is in freehold parts, which the late Mr. Brown always intended to purchase in part, and common with other properties. The parties in possession are, he says, fully aware of their value to the St. John del Rey Company, now they have spent 7000l. upon them. The mine, he considers, is undoubtedly a good mine, and will pay as well as Morro Velho.

Don Pedro North del Rey, ½ to ½; the report for January states that the produce from 2567½ tons dry weight was 5000 oits., of the value of 2125l., and the aggregate cost was 2647l. 12s. 10d. Captain Vivian (Feb. 10) writes with regard to the permanent pumping machinery, that having now matured plans, and should everything go well, especially the old machinery, to enable to fork the water sufficiently low enough below the 35 so as to fix the 16-in. plunger-lift, he sees no reason why the whole of the machinery should not be completed, and commence pumping water some time next month (March). Almada and Tiritio, ½ to ½; the telegram received on Monday reports an important improvement in Providence. "New east ley discovered north in east cross cut from tunnel; width of new east ley (Providence) 1 fathom. Ley of ore high: coppery; black; looking well; raining." On Feb. 1 Mr. Breach wrote "that the extent of payable ground has increased considerably during the past week, but still it must only be regarded as a deposit under the slide, and not as forming a part of the main course of ore for which we are exploring." The next letter (Feb. 8) said "The ore in the Providence Mine under the tunnel we now know holds down to the 10, and we are opening out at that level for stoping. Next week I hope to send you a sketch of the works south of the slide, as we have changed the direction of the explorations in favour of a plan, which we hope to make self-supporting at least, if no more." The telegram is, therefore, considered to be particularly gratifying.

The latest advices from Comstock continue to point to the fact that what are known as outside districts are engaging more than ever the attention of the mining public. Some districts are fairly rivaling Comstock itself in the amount of business transacted and enhancement of values. San Francisco capital, with the concentration of the principal mines in the hands of the bonanza firm, is seeking for outside investment, and the result will be the opening up and development of hitherto unexpected treasures. Not a little of the capital is already on its way to engage in extracting the now acknowledged wealth of the Black Hills, and building up the coming territory of Arizona. Meanwhile, the principal mines of the Comstock, concentrated in strong, capable, and energetic hands, will have a new lease of life, and will enter upon a fresh sphere of productive usefulness. There is nothing in the prospects of the mining world for the coming season. The daily yield of the Comstock California is 700 tons, and the Consolidated Virginia 600 tons. The ore-producing sections of the mine are looking well in every part—in fact, there seems no prospect whatever of any decrease of the regular monthly returns of the mine. The mills are all kept busy crushing, and the daily yield of bullion is fully up to the usual standard. The delivery of ore by team to some of the canyon mills has been quite difficult, but the reserves of ore on hand serve to keep all in full operation. Not many men who see the miners of the Consolidated Virginia lifted out at the top of the shaft at change of shift have the courage to descend into the lower regions of that mine. Very few men of the old residents of the Comstock care to descend into the steaming regions below, and not one man in a thousand could be induced to make the trip after seeing the men popped out at the top of the shaft, steaming as though just lifted from out of a cauldron of boiling water. Though they are shirtless—naked as at birth from the waist up—and wear only cotton overalls, they are dripping as if but a moment out of a pond, yet this is all from steam and perspiration. In all this great heat men must work—the wonder is that they are able to do anything but gasp and pant. It is a place better fitted for salamanders than for men. At the head of the main incline it is as hot as in the hottest vapour bath at Steamboat Springs. One would think that men much in such a place would be quite secure against rheumatism; but for the large quantities of ice-water they drink the men could not endure the great heat in which they are placed or the floods of perspiration pumped from their pores. They swallow gallons on gallons of it, and it never hurts them in the least.

Richmond, 9½ to 10; the usual weekly telegram from the mine at Eureka state the week's run to have been 90,000 from 1100 tons of ore. The week's produce of the refinery was 855,000. The directors announce that the coupons and debentures due on Monday will be then paid at the Union Bank of London. As to the operations at the mine, the jealousy of San Franciscans appears to be getting excited, for a local writer observes—"The Richmond Company refine their own bullion. They have invested nearly \$1,000,000 in providing machinery, buildings, &c., and their process is a French invention, which manager Probert has the exclusive right to use in the United States. It is a losing process, however, for the company, as it is much more cheaply refined at San Francisco and at the eastern refineries. The commission sent over from England will recommend its disuse, in which case the enormous sums required to put it on its present footing will prove almost a total loss." How

far the attempt to refine the "process" at San Francisco would be successful can scarcely be judged of from such an evidently interested authority.

Hultafall, 5 to 5½; the mine continues to open up well. There is a portion of the lode still in the shaft, which is carrying rich ore. The shaft is a perpendicular one, and the lode has been in the shaft for the greater part of the sinking, but is dipping from the shaft. The fact of a part of the lode being still in the shaft, and rich ore, speaks well for the course of ore in depth, and also proves its great size. There is no other change of importance in the workings. The dressing machinery has been started, and will be working on ore at the latter part of this week.

The Market for Hydraulic or Gold-Washing Shares has shown more animation, and there has been an enquiry for Blue Tent and Birdseye Creek at quotations. Blue Tent, 3 to 3½; a telegram has been received during the week announcing a further partial clean-up, with a return of \$4700. Work was being pushed on steadily, and everything progressing satisfactorily. Cedar Creek, 3 to 4; the superintendent advises the first clean-up at Central claim, resulting in a yield of \$6000; this is considered satisfactory. Washing on Baker claim was also progressing well.

Lead Mines have been firmer, with a fair amount of business transacted. Van, 24 to 26; the annual meeting was held on the mine on Wednesday. The details appear in another column. The mine is looking exceedingly well. Grogwinion, 3½ to 3¾; the sale of ore this month is increased to 150 tons, that quantity having been sampled yesterday for sale next week. The mine continues to open out in a productive manner. Wye Valley, 1½ to 2½; good progress continues to be made at this mine. West Wye Valley, 3½ to 3¾; the various stopes maintain their productiveness, and the deep levels are still opening out well, thus increasing the reserves of ore ground. Caron, 2½ to 2¾. Mr. Walter Eddy, of Llangollen, has specially inspected the property, and speaks favourably of the mine and its prospects. Good progress continues to be made, and the bottom level is opening out very good ore ground indeed—much better than in the level above. South Cwmystwith, 3 to 4; this mine has now commenced sales, a parcel of 40 tons of lead having been sampled last Wednesday for sale on the 27th inst. It is intended to follow this up with regular monthly sales, and, so rich is the mine said to be, that it is expected the returns will be increased as the ore ground becomes more laid open and available for taking away. The lead is of rich quality, and is found in large solid ribs—in some places 15 to 20 in. wide—and can be bested away cheaply. Red Rock, 2 to 2½; excellent progress continues to be made in all the workings, and a good quantity of lead is being raised and dressed. Saint Harmon, 2 to 3; all operations going on well at the mine, and a nice parcel of lead preparing for sale.

Pateley Bridge, 3½ to 4½; the agent advises that the 30 east on Rake vein has very considerably improved since last report the end now being worth 6 to 7 tons of lead ore per fathom. Other parts of the mine also looking well. West Pateley, 2 to 2½; everything is reported to be progressing satisfactorily. Mawston, 50 to 55; good progress making at the mine, and a parcel of ore being got ready for sale from Weadley Hill level. Hartington Moor Carbonate, 1 to 1½; this is a small company formed to work some deposits of carbonate of lead in Derbyshire. The mineral can, it is said, be produced cheaply, and requires no dressing. The works have only recently been started, and already sales have commenced, whilst it is expected that after the present month the operations will produce profit.

Subjoined are the closing quotations:—
Ashton, ¾ to 1; Carn Brea, 42½ to 45; Court Grange, 1 to 1½; Devon Great Consols, 2½ to 3½; Dolcoath, 31 to 33; East Caradon, ¾ to 1; East Van, 6 to 6½; Glenroy, ¾ to 1; Great Laxey, 20½ to 20¾; Hingston Down Consols, ¾ to 1; Leadhills, 3½ to 3¾; Marke Valley, ¾ to 1; Parys Mountain, ¾ to 1; Pateley Bridge, 3½ to 4; Penrithal, 4s. to 6s.; Roman Gravel, 8½ to 8¾; Rookhope, ¾ to 1; Tankerville, 3 to 3½; Tincroft, 11 to 12; Tyn-y-Fron, 1½ to 1¾; Van, 24 to 26; West Ashton, ¾ to 1; West Basset, ¾ to 1; West Cuckerton, 13 to 14; West Pateley, 2 to 2½; West Tankerville, ¾ to 1; Wheal Grenville, 2½ to 3½; Almada and Tiritio, ½ to ½; Argentine, ¾ to 1; Birdseye Creek, ¾ to 1; Blue Tent, 3 to 3½; Cape Copper, ¾ to 1; Condes of Chili, ¾ to 1; Chontales, ¾ to 1; Colorado Terrible, 1½ to 1¾; Condes of Chili, ¾ to 1; Don Pedro, ¾ to 1; Eberhardt and Aurora, 6 to 6½; Exchequer, 1-16th to 3-16ths; Flagstaff, 11-16ths to 13-16ths; Frontino and Bolivia, 1½ to 1¾; Hultafall, 5 to 5½; I.X.L., ¾ to 1; Javali, 5 to 5½; Kapanga, 5 to 5½; Last Chance, ¾ to 1; New Quebrada, 1½ to 2½; Oregon Preference, 4 to 4½; Pestarena, 4s. to 6s.; Pumas Eureka, 2½ to 2¾; Port Phillip, ¾ to 1; Richmond Consolidated, 9½ to 10; St. John del Rey, 315 to 325; Serra de Cocas, 1½ to 1¾; South Aurora, ¾ to 1; Tecoma, 1-16th to 3-16ths; United Mexican, 2 to 2½.

COLLIERIES.—A little improvement has taken place during the past week in some of the best of these shares, and a more hopeful tone pervades the market generally. The coal and iron trades both give signs of coming improvement, and there can be no doubt that if Eastern matters should be peaceably settled the expansion of these as well as of all other trades will be very marked and rapid. The uncertainty which has for so long pervaded political affairs is chiefly responsible for the tardiness of the reaction which was reasonably expected to follow the serious depression of the past two years. But, notwithstanding this and other disturbing causes trade has continued to grow, and in no respect is this fact more fully borne out than by the figures which we published last week relating to the exports and internal consumption of fuel. These figures showed no sudden rise followed by a corresponding decline; on the contrary, they afforded evidence of a steady and healthy development. The latest returns of the exports of coal and coke from the chief ports—namely, those for the week ending the 19th inst.—exceed those of the previous week by no less than 100,775 tons, the figures being 340,344 tons and 339,565 tons respectively. To a very great extent this large increase is to be found in the South Wales district, as to the trade of which some idea may be formed from the fact that over the Taff Vale line alone 11,000 trucks of coal are running down to Cardiff every week—an amount of traffic exceeding anything known in the past, even during the most flourishing times. From South Wales we also have favourable reports of some of the branches of the iron and more particularly of the steel trade. There can be no doubt that there is a famous future in store for South Wales. The district about Swansea affords the best anthracite coal in the world—a fuel very specially suitable for the manufacture of the finest qualities of iron and steel, and it has long been a source of wonder that this coal has not been more worked. We are glad, therefore, to hear that a new company has recently been formed for the purpose of working the Ynisedwyn Coal and Iron Works, which, when they were in full operation a year or two ago, turned out a material far exceeding in quality the best North Country metal. The present company starts under excellent auspices, the property having been acquired for a sum ridiculously small in comparison with its well-known worth, while the management will be in the hands of men thoroughly well acquainted with the locality and its trade. We understand that a large part of the capital is already privately subscribed, and the company will, therefore, commence its work forthwith. Allamit shares are unchanged at 4 to 5. The various drivings upon the main coal continue to yield well, and on the south side of the engine pit an extensive body of splendid coal is in course of development. Chapel House shares are firm at last week's prices. The opening out on the Park Mine continues rapidly, while at the same time the raisings are steadily on the increase. Profits continue satisfactory, and though the West Lancashire coal trade is a little more dull, the Chapel House manager finds plenty of customers for all the coal he can obtain. We are informed that a fair profit is now being made at Lay Hall, the shares of which remain at 8 to 10. Trade is very dull at Mold Argoed, and there is nothing doing in the shares, which are quoted nominally at 1 to 2. Newport Abercarn, 3½ to 4½; Cardiff and Swansea, ½ to 1; Thorp's Gawber, 2½ to 3; New Shariston, 3½ to 3¾; Andrew Knowles, 13½ to 14; Cakemore, 5.

With this week's Journal a SUPPLEMENTAL SHEET is given which contains—Original Correspondence: Utah Mines, and their Geology; Geology of the Pacific Coast (J. B. Rees); Rona Grande Gold Mine Company (C. H. Williams); St. John del Rey Mining Company (C. H. Williams); Explosions in Collieries; the London Coal Supply (W. J. Thompson); the Copper Trade, and its Prospects (H. R. Merton and Co.); the Tin-Plate Trade; Prize Blow-pipe Apparatus; Air-compressing Machinery (J. G. Cranston); Rock Drills (Le Gros, Mayne, Leaver, and Co.); Rock Drills in the Isle of Man (J. Williams); the Keswick United Lead Mines Company; Lead Mining in Scotland (T. B. Stewart); the Extraction of the Precious Metals from Ores and Products (T. G.); Public Companies, and Liquidation; Lead Mines in the North—West Pateley Bridge, West Craven Moor Mines, &c.; Mining in Flintshire—Pant-y-Mwyn Mine; South de Eresby Mountain (J. Roberts); Mynydd Gorda Lead Mine; Cardiganshire (J. Fell); Wheal Uny, and its Management (J. Treasider); Blaen Caelan Mine (T. Rosewarne); Mining in North Devon (F. Thomas); Holmbush Mine; New Broadford Company; New Consols Mine; Lead Mines—Foreign Mines—Meetings of Van, Wheal Grenville, Llanrwst, Great Western Colliery, South Caradon, Wheal Basset, &c.

DERWENT.—There has been a steady improvement in these mines for some time past, which is most encouraging to the shareholders. At the 93, from Jeffries, No. 1 stope has increased in value from 8 cwt. to 1½ ton per fathom. The stopes behind are also looking more kindly, and show every appearance of similar improvement. The middle vein has been cut at the 93, at Westgarth's, and for the width laid open (4 ft.) is worth 1½ ton per fathom. This is at the bottom of the limestone, and as the lodes are generally poorest at the junction of the sills there is every reason to expect richer ground will be laid open when stoping is commenced. It is now intended to drive by the side of the vein with the boring machine, by which means communication between Jeffries and Westgarth's shafts will be more expeditiously made, and the large amount of ore ground laid open become sooner available for economical working. The Sun vein and the 70, west of Jeffries, are also looking more favourable than for some time past. Without any assistance from the new lode cut at Westgarth's the returns have already been

considerably increased. When this lode is laid open for stoping a large amount of rich ground will become available, and there is every reason to anticipate that the mine will then enter on a profitable career.

ROOKHOPE.—The surface alterations which have so long been in progress at this mine are now approaching completion, and for the present (five weeks) month 50 tons of lead ore will be sold. During the week ending Saturday, March 16, 20 tons of lead were dressed, and from a stope over the 15 eight men have broken 25 tons of ore during the month. There is, however, a large quantity of poor stuff passing over the floors which pays for dressing, but necessarily occupies time in treating, and thus prevents more of the rich stuff now broken underground being dressed. Two short cross-cuts in the 42 have each cut ground worth about 16 cwt. of ore. A rise has been put up and will shortly meet the rich winze gone down in the 25. It is estimated that there are more than 1200 fms. of ground between the 42 and 15 fm. levels, which will average about 13 cwt., and can be sent to market at 3½ 2s. 6d. per ton. From the 15 to surface, east of Gin shaft, the ground is whole, worth for the whole width of the lode 16 cwt., but in the richest parts quite 1½ ton. Above the adit there are about 1200 fms. of ground, worth 15 cwt. The mine is already making profit, and from present appearances should shortly commence returns, which will place it in the Dividend List.

SOUTH DARREN.—This mine continues to look exceedingly well. The lode in the shaft is now saving work for lead. The 100, west of winze, is worth 10½; the winze below the 90, 4½; the stopes in the 90 average 25½; in the 80, 32½; and the two stopes in this level 10½ per fathom. On the 16th inst. 40 tons of lead ore were sold for the month at 16½ 11s. 6d. per ton, making 663l.

PATELEY BRIDGE MINES.—GREAT DISCOVERY.—This week's report announces a discovery greater in present value and prospective importance than any made since the formation of the company. The Rake vein, in the bottom level, 30 fms. below adit, and 90 fms. from surface, is now worth from 6 to 7 tons of lead ore per fathom. The feature in connection with this discovery is the considerable height of the backs (35 fms.), and the great length of unexplored ground in advance. The same vein west is beginning to show strong indications of a rich deposit of lead ore. Dressing and smelting of lead carried on regularly.

ZINC ORES.

ARMAND FALLIZE.

INGENIEUR-CIVIL, A LIEGE (BELGIUM),

1.—CARBONATED AND OXYDED ZINC ORES (CALAMINE, &c.)
2.—ZINC AND LEAD ORES MIXED TOGETHER, BUT DRESSABLE KINDS ONLY.

CAPPER PASS AND SON, BRISTOL

PURCHASERS OF
LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, HARD LEAD, BRASS SLAGS AND ASHES, COPPER REGULUS, MATTE, SCORIA, TIN ASHES, TERNE ASHES, &c., and MIXED ORES or REFUSE, containing LEAD, COPPER, TIN, or ANTIMONY.

MINERALS WANTED.

ADVERTISER requires REGULAR CONSIGNMENTS of GOOD SULPHUR ORE (PYRITES), either cupreous or non-cupreous; also, GOOD BLENDE, and SOFT MANGANESE ORE. Address, "Pyrites," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

Exhibition Prize Medal—New South Wales, 1877.

AUSTRALIAN TIN—"KANGAROO" BRAND.

Having recently succeeded in REFINING the AUSTRALIAN TIN to the HIGHEST PITCH OF PURITY, the Undersigned is prepared to SUPPLY an article equal to the BEST REFINED ENGLISH.

The uniform assay of the "Kangaroo" brand ranges from 99.70 to 99.90 pure tin. An exhaustive comparative trial of various brands of Australian tin (see annexed report) have proved the

"KANGAROO" BRAND

To be superior to all other Australian tin, and equal to best refined English.

COPY OF REPORT.
"Sydney Galvanising Works, Sydney, Oct. 1, 1875."
"DEAR SIR,—I have much pleasure in stating that I have found the tin smelted at the 'Kangaroo' Tin Smelting Works superior to any other Australian smelted tin I have used in my business up to the present time, and in no way inferior but quite equal to the celebrated 'Lamb and Flag' tin. This opinion has been arrived at after several carefully executed practical tests, as well as from metallurgical assays."

"I am, dear Sir, yours faithfully,
(Signed) S. ZOLLNER."
Messrs. JOHNSON, MATTHEY, AND CO., the well-known Assayers, report on 24th December, 1875, on a shipment ex Durham, 25 tons of "KANGAROO" TIN, 99.95 per cent. pure tin.

In ordering the "Kangaroo" brand the trade will henceforth ensure uniformity of quality, excellence of texture, and absolute freedom from impurity.

"KANGAROO" TIN SMELTING WORKS.
Sydney, September, 1877. S. L. BENSUSAN.

WALTER ROY AND ALLAN,

184, BUCHANAN STREET, GLASGOW,
EXECUTE COMMISSIONS FOR THE PURCHASE AND SALE OF SCOTCH FIG-IRON WARRANTS.

Sole Agents in Scotland for—
SPEAR AND JACKSON, Etna Steel Works, Sheffield; and JOHN SHAW, Yorkshire Wire Rope Works, Sheffield.
Steel and Steel Tools, Pig and Manufactured Iron, Hemp and Wire Ropes for all purposes, Indianrubber Goods, and Furnishings of every description for Collieries, Foundries, Engineers, Saw-millers, &c.

ASBESTOS.

THE BEST MATERIAL for the STEAM JOINTS of LOCOMOTIVES, MARINE and STATIONARY ENGINES BOILERS, &c.

It is manufactured entirely pure, and of the best and strongest qualities, into MILLBOARD, for STEAM, WATER, GAS, and ACID JOINTS.

Further particulars and prices of the undersigned,

SMITH, FLEMING, AND CO.,

17 AND 18, LEADENHALL STREET
LONDON, E.C.

Now ready, and will be forwarded on application.
Price One Shilling.

MR. JOHN B. REYNOLDS ON THE INTERESTS OF BRITISH CAPITALISTS AND INVESTORS—THE POLICY NOW TO BE PURSUED.

Every person interested in Investments at the present critical moment should have a copy of this production.

JOHN B. REYNOLDS, STOCK AND SHARE DEALER,
70 AND 71, BISHOPSGATE STREET WITHIN, LONDON, E.C.

Established Twenty Years.
Bankers: London—City Bank.
Cornwall—Messrs. Twedy, Williams, and Co., Redruth.

THE "INVESTORS' GAZETTE."
Published last evening, and EVERY FRIDAY EVENING. Post free for three months, 2s. 6d.

The "INVESTORS' GAZETTE" is unlike any Private Circular; it is NOT issued with the object of PUFFING any Mines or Securities, but gives a resume, as brief and concise as possible, of the prices on the Stock Exchange and Money Market for the week, and latest intelligence from Mines in all parts of the world. The "INVESTORS' GAZETTE" contains the lowest net prices at which MINING and OTHER SHARES can be purchased.

Edited and published by—
ALFRED E. COOKE, 16, OLD BROAD STREET, LONDON

Notices to Correspondents.

*. Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

GAS COMPOSITION PIPE.—Will you allow me to enquire, through the Journal, of your correspondents, of what metals is Gas Composition Pipe made, the proportions, and how mixed?—SOUTH AMERICA.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

Received.—"H. C. J." (Toronto)—"Investor" (Manchester) should apply for the information to his broker—"Shareholder" (Llanrwst); A report appears in another column of this day's Journal—"M. W." (Nath)—"P. D." (Hayle)—"T. R. W." (Staveley)—"Old Subscriber" (Bristol)—"Contributor" (Glasgow)—"G. C. S."—"M. N." (Exeter)—"Shareholder" (Wheal Basset).

THE MINING JOURNAL.

Railway and Commercial Gazette.

LONDON, MARCH 23, 1878.

THE PREVENTION OF ACCIDENTS IN MINES.

Persons who know little or nothing of mines, or the mode in which they are worked, after some serious and fatal catastrophe has occurred frequently come forward with some specific which has suddenly struck them as the only true preventive against explosions of gas in particular. This has been the case with respect to Mr. JOSEPH HATTON, once a journalist, but now a novelist, who has made a startling discovery which if carried out he thinks must lead to explosions of fire-damp being unknown in the future. Like a true philanthropist Mr. HATTON threw his discovery open to the world at large without hope of reward, in the first instance in a letter, a copy of which was inserted in our last week's Supplement. Mr. HATTON informs us that a few years ago in a popular magazine he gave a dozen notable examples of the fact that colliery accidents occurred in two, a plurality accounted for by "atmospheric disturbances." He also informs us that all the great catastrophes resulting from explosions in mines have occurred almost simultaneously with violent storms on sea and land. On the occasion of these atmospheric changes Mr. HATTON proposes that the approach of a cyclone should be telegraphed to all our mining districts, and that there should be a storm signal at each pit's mouth, so that when the approach of a cyclone was telegraphed all open lights should be put out, Davy lamps enforced, and blasting suspended. Practical men view such a proposal as simply absurd, and it only adds more to the many theories proposed for the safe working of mines by those who have little or no knowledge of fiery or other collieries. Atmospheric disturbances are indicated by the barometer, and it is evident that Mr. HATTON is not acquainted with the fact that by the Mines Regulation Act it is required after gas has been found in a mine that a barometer and thermometer shall be placed in a conspicuous place above ground near the entrance to the mine. But the barometer is not thought much of by many of our ablest mining engineers. Mr. WILSON, of the Oaks Colliery, considers it an instrument that could be well dispensed with, seeing that in many instances an outburst of gas precedes a fall of the barometer. As to all the great catastrophes in our mines having occurred simultaneously with storms on sea and land facts are opposed to this view of Mr. HATTON's, for most of them have been proved to have been in no way affected by atmospheric disturbances. At the Oaks Colliery the explosion in 1866, in which the loss of life was the greatest known from any cause, it was plainly shown that the firing of a shot had a great deal to do with it. At Blantyre the loss of life was occasioned by the reckless mode of working, there being naked lights and indiscriminate use of powder, and the men allowed to fire their own shots. Something similar appears to have been the rule, but probably not to the same extent, at the colliery near Bolton, where last week 43 lives were lost.

There is no doubt but the majority of fatalities from explosions is the result of carelessness, and neglecting to carry out the rules laid down for the guidance of all parties connected with the underground work in mines. The barometer is not the instrument that many persons believe it to be, for the President of the Midland Institute of Mining Engineers remarked not so very long since that at the collieries he was connected with, and others in Yorkshire, as far as his experience went, there had been no more gas reported during the low state of the barometer at the time alluded to than there was when it was very high. If, however, we take the reports of the Inspectors of Mines, our own views will be fully borne out. In one of these reports, Mr. DICKINSON says "27 lives were lost owing to a general explosion caused by the air being obstructed at the far end, where long pipes were being used, instead of making cuts through. The gas lighted at a shot, which blew out the stemming." In another instance we are told two men passed the danger signal and went with a naked light into the abandoned part of the workings. Mr. WILLIS notices the case of a man who put his candle into a cavity in the roof and fired the gas. Mr. WYNN in one of his reports states, "explosion of fire-damp have occurred in ten different collieries, causing the loss of 25 lives, and, I am sorry to say, were in most cases the result of carelessness or bad management." Mr. MOORE notes that of three explosions two of them were the result of going into disused places with open lights. In the same year Mr. ALEXANDER, in whose district the Kilsyth Colliery is situated, reports three deaths from explosions, remarking that "when the details of these accidents come to be considered I shall be able to show that at least two of them resulted from carelessness or neglect, and never should have happened." The mines of South Yorkshire, it has been admitted, are the fiercest in the kingdom, yet explosions of a serious nature in them have been of rare occurrence during the past couple of years, seeing that in nearly all of them safety-lamps are now used, and blasting discontinued. This improvement is attributed by Mr. WARDELL, the Government Inspector, to the "increased attention paid by the employees as well as employers, and not a mere matter of chance." Mr. WARBURTON, a well-known authority, also shows that explosions owing to atmospheric disturbance are not so frequent as many persons are led to believe. In one year he informs us explosions took place on 159 days, though only fatal on 60 days, but of the 159 days he found the barometer rising on 49 days, and steady on 40 days, making 89 days in which explosions occurred when the barometer was not falling. We have here 44 per cent. of explosion with a falling barometer, and 56 per cent. when not falling. So much for the theory with respect to cyclones, storm signals at pit's mouth, &c., which, like many others, looks very well on paper, but is useless for all practical purposes. To prevent accidents the ventilation of our collieries should be of such a character as not to be dangerously affected by fluctuations of the barometer or sudden atmospheric changes, and this is the view held by mining engineers generally. But where the ventilation is not carefully attended to, and powder and naked lights are allowed to go together, explosions must inevitably take place.

In the House of Commons on Monday the mines representatives, Messrs. BURT and MACDONALD, came out more prominently and persistently than they have hitherto done, in the course of which the Member for Stafford had to be called to order. The subject introduced by Mr. BURT related to the Blantyre explosion, and the report of the Commissioners appointed to enquire into its cause, seeing that in it frequent violations of the Mines Regulation Act had been pointed out. As the manager had evidently been in fault to some extent Mr. BURT thought that his certificate should be cancelled, according to the provisions of the 32nd clause of the Act. Mr. CROSS frankly gave it as his opinion that he thought it a case

that attention should have been called to, but as the Commissioners had expressed an opinion that this case was not one in which proceedings should be taken under the 32nd clause of course he could not well take action.

A certificate we may say can only be cancelled on proof of incompetency or gross negligence, or the holder having been convicted of an offence under the Act. No one will say that the manager of the Blantyre Colliery was incompetent, although he certainly erred in not seeing that his orders were carried out, and in placing too great reliance on the statements of the overmen. Mr. MACDONALD also alluded to the Blantyre explosion, and asked the Home Secretary to name a day for discussing the new regulation laid down for the guidance of Her Majesty's Inspectors of Mines. This being refused Mr. MACDONALD spoke strongly on the subject of explosion. He admitted that the Act of 1872 did an immense amount of good, as had the mines Acts that preceded it. But within a very recent period 535 lives have been lost in mines, 210 of them by the Blantyre explosion; and those lives, he had no hesitation in saying, had been lost through the violation of rules laid down by the Mines Regulation Act. Such cases were not "accidents," but were a scandalous waste of human life, and he should call them "murders in mines," and nothing else. We are not surprised at the strong language used by Mr. MACDONALD, for the accidents he alluded to were certainly what may be termed "preventable." At the same time it must be admitted that the deceased were accessories, for they contributed to the explosions by which their lives were sacrificed. So evidently thought Mr. CROSS, for he remarked that he wished in the most kindly spirit to give, through Mr. MACDONALD, a word of caution to those who were employed in mines, for there was much difficulty in preventing men from running great risks through their own carelessness. If the mines were to be worked with care, and with due regard to the preservation of life, all parties concerned must try and carry out the law, and not only the mineowners and inspectors, but the miners themselves must have a due regard for care and precaution. The men have certainly great power with respect to carrying out their work to prevent any disturbing or dangerous element, but it is plain that very many of them by their acts and thoughtlessness invite the very influences that lead to their own injury and destruction. As a step in the right direction, we should like to see a superior class of deputies employed in many districts, for on them a great deal depends as to the safety of the men. The Act of Parliament, too, should be most rigidly enforced, gunpowder prohibited in all fiery mines, and naked lights abolished in collieries where gas has been found. These are the only remedies along with good ventilation that will prevent explosions in our mines.

OUR RAILWAY IRON ABROAD.

The aspect of the foreign and colonial demand for our railway iron is, upon the whole, of a more cheering character. Thus in February this year we sent to British colonies and foreign countries 41,631 tons of our railway iron, the corresponding exports in February, 1877, not having exceeded 20,690 tons, and in February, 1876, 18,099 tons. The figures for January were almost equally satisfactory, so that the aggregate exports for the first two months of this year were 73,463 tons, as compared with 37,706 tons in the corresponding period of 1877, and 41,679 tons in the corresponding period of 1876. The *prima facie* aspect of these statistics is decidedly satisfactory; but, then, the awkward fact remains that prices have been reduced to so low a point that whether there is a demand for our rails or not there is scarcely any margin for profit on their production. This is shown in the fact that the 73,463 tons of railway iron exported from the United Kingdom in the first two months of this year were valued at 504,006*l.*, the corresponding value of the 37,706 tons exported in the first two months of 1877 having been 317,237*l.*, and that of the 41,679 tons exported in the first two months of 1876 386,949*l.* Still whether railway iron is being exported from our shores upon profitable conditions or not one fact remains clearly established—that low prices have rather materially stimulated consumption.

That this has been the case will be at once seen from a comparative statement illustrating the exports of our railway iron to the principal British colonies in the first two months of the last three years:—

Colony.	1876.	1877.	1878.
British America	Tons 1,759	848	65
British India	5,759	6,969	33,189
Australia	6,043	6,770	11,955
Total	13,561	14,587	45,209

There has thus been a steady progress in the colonial demand since 1876. The extreme weakness of Canadian railway credit and the severity of the Canadian winter season have reduced the figures relating to the Canadian consumption of our railway material to a comparatively low point; but the Indian and Australian demand for British rails and accessories has expanded very materially of late, and there can be no doubt that this expansion is due to the moderate rates at which English rails, chairs, &c., are now offered to colonial consumers. The vigour with which the Anglo-Indian Government is now proceeding with the construction of State railways is, beyond all question, to be attributed to the fact that the Secretary of State for India in Council has come to the conclusion that now is the time to obtain permanent way materials upon exceptionally cheap terms. The various Australian Governments have also not been inattentive observers of the course which the British iron trade has taken during the last five eventful years.

As regards the general foreign demand for our railway material it would have, probably, exhibited a declension but for an exceptional enquiry which has prevailed for our rails on German account. Thus, in the first two months of this year we sent the Germans 9333 tons of our railway iron, the corresponding exports in the same direction in the corresponding period of 1877 having been only 236 tons, and in the corresponding period of 1876 29 tons. The exports of our railway iron to Spain also increased in the first two months of this year to 4075 tons, as compared with 4355 tons in the corresponding period of 1877, and 2304 tons in the corresponding period of 1876. To Egypt, again, we sent 2113 tons of our rails to Feb. 23 this year, as compared with *nil* in the corresponding period of 1877, and 70 tons in the corresponding period of 1876. The exports to several other countries have, however, declined this year.

THE COPPER TRADE, AND ITS PROSPECTS.—The article published in last week's Journal was supplied by a correspondent, and it was by accident that the intimation of that fact was omitted. It does not in any way represent the opinion of the Editor, but that of the writer and his associated friends in the trade.

SPONTANEOUS FIRING OF COAL CARGOES.—The Board of Trade enquiry at Liverpool into the loss of the barque Annie Richmond at sea through the spontaneous ignition of her cargo of coal was concluded on Monday, when the Court delivered judgment to the following effect:—In this case the cause of the loss of the vessel was not left in so much obscurity as had been the case in previous enquiries of a similar nature. In respect to 300 tons of the cargo, which had come from the West Lancashire Colliery Company's main delv seam, there was the evidence of Mr. Hedley, Her Majesty's Inspector of Mines for the district, which showed that it was particularly liable to spontaneous combustion, while about 80 tons had been shipped in a wet condition. Another element of danger was added by the coal being dropped into the hold from the wagons and thus becoming broken up and consolidated, in which state it was more liable to combustion; and, furthermore, it appeared that the ventilators were choked up and inoperative. Under all these circumstances the result was not surprising, and though the Court did not think a case of "wrongful act or default" could be established against the master, they could not absolve him from blame. In spite of the strong recommendations of the Royal Commissioners of 1876 he had no thermometer on board to test the temperature of the coal; there was no fire-engine on board, and the hose was useless. He should also have satisfied himself before leaving port that the ventilators were in working order. The Court was strongly of

opinion that the recommendations of the Royal Commissioners of 1876 with regard to the carrying of thermometers and the provision of a thorough system of surface ventilation should be made compulsory upon masters and owners of coal-laden ships.

INSTRUCTION IN COAL MINING.—The Yorkshire College, at Leeds, has just added to its curriculum a subject of great practical importance, especially in Yorkshire—Lectures on Coal Mining. Geology has from the first formed a leading branch of the educational work of this college, but it was felt that the teaching of this science should be supplemented by instruction in practical mining, and particularly coal mining. This, by the aid of the Drapers' Company of London, the Council have now been able to provide. Mr. Arnold Lupton, F.G.S., who has been appointed to this department, met his class for the first time last Monday; 22 students have already entered, a number which must be considered very satisfactory as a commencement, but it is expected that the class will become much larger when the fact of its existence becomes better known among candidates for mining certificates, and others interested in the coal trade of the county. The course includes the theory and practice of coal mining, mining engineering, and colliery management, and the class meets at the College, Cookridge-street, every Monday at 5:30 P.M.

LIFE BRIGADES IN MINING DISTRICTS.

Attention having been drawn to this subject by Sir E. Wilnot asking in the House of Commons, on Monday, "whether the Government would consider the proposal made by Mr. Bagot in his work on Accidents in Mines for the systematic organisation of life brigades to rescue miners from the effects of after-damp and other noxious vapours, and whether the Government would appoint a Select Committee to report on the plans suggested for gaining safe access to a colliery after explosions," it may be well, although we have already published one notice of Mr. Bagot's book,* to give the substance of the chapter containing the suggestion to which Sir E. Wilnot alludes. The chapter is devoted to the consideration of "The Organisation of a Life Brigade for Mines." In it Mr. Bagot says:—We have in England, perhaps without exception, the best and most efficient fire brigade, and without doubt the best lifeboat institution extant. The cost of appliances for maintaining fresh air in sufficient quantity for a gang of relief men to work in "styh" or any deadly gas is so great that they can hardly expect each colliery to have its own appliances. In our opinion the Denayrouze high-pressure siphon is one of the appliances that should be considered. [The apparatus and method of using it have frequently been explained in the Journal.] The reservoir of fresh air is arranged as follows:—Three steel cylinders are charged with air by a compressing pump; to these cylinders tubes and necessary valves are joined, to enable the wearer to breathe with comfort. A gauge is attached, which shows the wearer how long the air will last, and is attached to the air-tube leading from the receiver, and therefore independent of the atmosphere of the mine. The complete apparatus for two men costs 18*l.* It is suitable for about 30 minutes' urgent work, such as getting men out from the effects of after-damp, erecting a stopping, laying on brattice, &c. The advantage is obvious, since two men can enter a heading without dragging a long tube after them. Any one who has had to undergo this inconvenience will know the danger there is in retracing steps, and getting the air-tube entangled round a prop or a piece of iron rail. We would caution those who have to use such appliances as this, and recommend them never to attempt to retrace their steps in a mine without first taking the air-tube in two coils in their hand, and coiling it up as they retreat; not with a view of keeping it out of the way, but because, should the air suddenly become cut off, the cause may be readily found by passing the hand along the pipe, and following the course until the cause of the obstruction is reached.

The next appliance and *modus operandi* is also an invention of M. Denayrouze, and consists of a bellows pump, lamp, respirator, and eye protectors, joined up with suitable lengths of tubing. Here again the lamp is supplied with air from the pump. The whole of this arrangement complete, with 165 ft. of tubing, costs 35*l.* The cost of equipping a relief gang such as I propose should be formed in the centre of mining districts will be—siphon for two men, 18*l.*; bellows pump, employing two men, 35*l.*; spare tubing 60 ft., employing one man, 6*l.*; tools, brandy, lint, and stretcher, employing two men, 5*l.*; picks, timbering, and rope, employing seven men, hewers (no allowance for cost, being provided by the pit); and hose, employing three men, pit carpenters (no allowance made for cost, but from the above statement this may apparently be estimated at 2*l.* per foot). The siphon men are to be engineers, and the brandy and stretcher men are to be deputies. Mr. Bagot gives this estimate in tabular form, and then continues:—

Of course the number need not be limited to 20 only, but that number will be found sufficient for any relief or exploring party for immediate search or rescue. This gang is composed of 20 men, thus picked:—Three engineers (two of whom would go in the face), two deputies (to direct with remaining engineers), seven hewers (in case of fall, and as extra hands), three pit carpenters. The whole of the siphon tackle and appliances should be put in a box, and kept at some central place, and the men at each pit should know how to use it. Really there is nothing to learn; all that is required is that the men who use it shall have plenty of the true British pluck and determination to do what is required. Every pit should be made aware of the head-quarters of these brigades; and should an accident unfortunately occur they should telegraph for the relief apparatus, the men being drawn from the pit. Those who are willing to serve and are proficient should have a distinctive mark, in order to ensure competent men. One deputy should live where the relief apparatus is stored. Of course, this project would be met by certain men, who are against everything and propose no alteration, by the statement that we should not get the men. This statement is nonsense, for we have always drawn an exploring party from a crowd of lookers-on, mostly miners, by merely asking for them. The difficulty is to get the first man; and I would here advise every man who may be called upon to organise an exploring party, and where time lost means lives lost also, to arrange with one man before calling for men to volunteer, that on calling that man comes forward at once. If the man does not seem inclined to do this, select a married man, and then on completion of the number required refuse him on the ground that he is married, and ask someone to take his place or do without him.

On descending the pit and arriving at the bottom, settle distinctly what is to be done before any men go "in by." We are confident that many lives might be saved if such an organisation were got together in mining districts. We raise annually (say) 140,000,000 tons of coal in Great Britain. If one penny per ton was charged upon coal an income of 583,333*l.* per annum would be derived. I think this organisation might be kept up on a tax of one penny on every 10 tons raised. We would remind our readers that the question of lives lost in working and carrying coal is one that has occupied the public attention of late, and that if the public wish to lessen this loss of life they must be content to pay a little more for their coal than they did. We, as mining engineers, can find ways of lessening this loss of life if the public are prepared to find the means of paying for them. If legislation interferes, and says "those collieries who cannot have the Guibal fan are not to be worked till they do have it," all that happens is the lessening of competition and consequent increase in the price of coal.

The whole subject has been treated very briefly here; in fact, there was no necessity for writing this book as far as regards those occupied in the profession of coal mining. Our object in doing so was to try to set the whole matter in its true light before the public, with a view of showing what is done and what is required still to ensure a maximum amount of safety for the miners. If we have succeeded we shall not consider our labour lost. In conclusion, I would earnestly ask those whom it concerns to consider the use of explosives in mines; the timbering and propping of roofs in the hands of the stall men; the stall men finding their own powder;

* "Accidents in Mines: their Causes and Prevention." By ALAN BAGOT, M.E. London: C. K. Paul and Co., Paternoster-square.

the practice of "putting back" the same coal; and in considering them to discontinue them if they think them "dangerous practices not expressly forbidden in the Act."

REPORT FROM CORNWALL.

March 21.—In sympathy, as it is said, with the dulness in the London metal market, the Cornish smelters have nominally withdrawn a half of their recent advance. We say nominally because business is dull, and where transactions have been made within the past few days there have been sundry variations, and both higher and lower figures than the official prices have been realised. There is no doubt that the cause of this is to be found in the daily fluctuation and uncertainty with regard to our foreign relations. The metal market is just now exceedingly sensitive, and responds to every change in the prospects of the settlement of affairs in the East, and so it will be to the end. We must be content to wait until the diplomatists settle their difficulties before we can hope to be landed upon sure ground.

And if the metal market is thus sensitive, the share market is of course sensitive likewise, and there has been some falling back from the advance which followed the putting up of the tin standard. We do not regard this, however, as of any great importance. The actual value of the mines remains unaffected, and there have been few better opportunities for those who are inclined to invest in Cornish mines than the present. Prices are so low in most of the good mines (and the poor ones have been pretty well weeded out) that the slightest real renewal of activity must lead to very satisfactory results. The worst that can happen to a speculator who chooses his investments wisely is that he may have to wait a little while for his return, for there is no need that he should run any risk of calls. South Caradon continues, like Dolcoath, to keep up its dividends and its prospects. The mine has now been paying dividends for over 40 years, and there is no reason why it should not continue to pay dividends for certainly an equal time to come; for it is looking to the full quite as well as ever, and alike in quantity and quality the returns are equal to the very best times. Application is to be made for an extension of the set, and at the meeting a hope was expressed that while the depression continued the dues should be lowered. South Caradon has been such a source of wealth to its lords—an unearned increment of their property in the strictest sense—that the application certainly deserves favourable consideration. It should be remembered that all the risk has been on one side.

A very striking illustration of the changes which have come over Cornish mining in the past 30 years is supplied by the fact that whilst 25 years ago 33,000*l.* a month was paid in wages to the miners in the St. Day district, at the present time the labour cost of the mines in the locality over the same period does not exceed 100*l.* The recent reductions of the surface hands at many of the mines have compelled numbers of the bal girls to try domestic service; though clumsy at first, they are generally painstaking and honest, desirous of doing their best. When it is considered how much better off girls are in service than those who work at the mine it seems amazing how they prefer the latter, but the reason is that they can spend their evenings as they please, and sleep at home, when engaged in day work in the mines, while in service this is an impossibility. The wages of the mine girls vary from 8*d.* to 1*s.* daily, without food, and sometimes a little extra is made by working overtime. For this they go to their work about seven, having an interval of an hour, or half-an-hour in some cases, for dinner, leaving the mine or tin streams at about five or six o'clock in the evening. They generally work under cover, but in winter are much exposed to cold and wet. Still the life is a healthy one, and seems to be quite compatible, with a great deal of enjoyment.

There have been a good many important cases heard at the Stannary Court during its recent sittings, but in an individual, and not in a general, sense not involving any great leading points of principle. One of the most important of these, so far as the amount of money was concerned, arose out of Ambrose Lake Mine, out of the construction to be placed upon the 25th section of the Companies Act 1876. On Dec. 22, 1871, a contract was entered into between William Eaton on the one part, and Joseph Taylor and George Hardey on the other, whereby Eaton agreed to sell the mine for 24,000*l.* in 6000 fully paid-up shares of 2*l.* each, and 1200 half-paid shares of 1*l.* each to be considered as paid thereon. Mr. Moss held over 6000 shares, upon which the 2*l.* per share was claimed, and Mr. Taylor held between 3000 and 4000 shares. His Honour, in giving judgment, expressed an opinion that it was a hard case for each of the defendants, but the terms of the 25th section of the Act were imperative, and he must give effect to them. Mr. Moss must be settled on the list for 8400 shares, Mr. Taylor for 7065 shares, Mr. Meglin for 300 shares, and Mr. Clarke for 169 shares. This is an illustration of the working of the Limited Liability System as applied to Cornish mines. Whatever may be said of the Cost-book System, the "Limited" has clearly no immunity from hardship.

TRADE OF THE TYNE AND WEAR.

March 20.—There is no change of importance in the state of the Steam Coal Trade; it is quite as dull as it was before the long strike. The engineers in Northumberland have accepted a reduction of 6*d.* per day; this reduces their wages to 4*s.* 3*d.* per day of eight hours. At Cambois and Copen these extensive mines continue at full work, but orders are not coming to hand so quickly as was expected, a fact generally accounted for by the unsettled state of affairs in the East. The Durham coal trade is very inactive, and more works are still being closed. The Redheugh Colliery has been stopped this week, but it is expected that the men will submit to a reduction, and that the works will again be started in a few days. The Elswick Colliery continues to stand, and the Tursdale, Killoe, and Ferryhill collieries have also been stopped, but most of these works will be re-opened if certain reductions are submitted to by the men. The house coal trade continues very inactive, and the gas coal trade, which has been best sustained in Durham, is now falling off. The coke trade inland is dull, owing to the furnace lately put out of blast, but the export coke trade has been tolerably active. Furnace and manufacturing coals are extremely plentiful, and selling at a very low price. The chemical trade has shown considerable activity during the week, and some large sales have been made at increased rates; some classes of goods have advanced 20 per cent. Stocks have been reduced, and a good demand has now sprung up.

It is proposed to hold an Art and Industrial Exhibition at Jarrow in July or August. This great seat of iron manufacture and iron shipbuilding is a most suitable place for such an exhibition, and it is anticipated from the support already promised that it will be of a highly interesting character. A sum of money will be devoted to prizes for ingenious productions.

It is intended that the members of the Northern Institute of Mining and Mechanical Engineers shall have an excursion to France during the present summer. The programme will include a visit to some of the most important coal mines in that country and to the Paris Exhibition. The secretary, Mr. Banning, is now engaged in making arrangements for the excursion, which there is little doubt will prove both interesting and instructive. Some papers on important subjects in connection with coal mines, &c., are in course of preparation for the purpose of being read at the meeting in Paris.

At Middlesbrough on Tuesday the market seemed more animated, and things are losing the late settled condition of dulness consequent upon the misunderstanding between the merchants and makers. The latter having abated their terms, and, so far as prices are concerned, broken up their combination, the merchants are speculating to some extent, and a fair amount of sales has been entered into within the last few days. Makers generally do not quote higher than 40*s.* 6*d.* No. 3, but merchants are in some cases able to satisfy their requirements at 40*s.*, less 1 per cent. The price for forge iron is 1*s.* 10 per ton less. The manufactured iron trade has remained without any material alteration. The position of manufacturers, it is considered, will be improved when the wages question is settled, as it is now considered likely to be within the next few days, as both employers and employed are showing a spirit of compromise.

If present prices of manufactured iron keep up when wages are reduced the manufacturers will be in a better position than they have been in for a long time. The general figure for plates is 6*l.* 5*s.* for immediate delivery, and 6*l.* 7*s.* 6*d.* to 6*l.* 10*s.* for execution during the summer. The wire-mills are well employed, and also the majority of the engineering works in the district. Ordinary bars keep at 5*l.* 12*s.* 6*d.* A handsome stand of Whitwell's furnaces, diagrams, &c., to be exhibited in the Paris Exhibition, was shown on 'Change. The coal and coke trades show no alteration.

The exhibits for the coming International Exhibition at Paris were sent off from Middlesbrough on Monday. They comprised a huge pillar of ironstone, 10 feet high, and weighing over 3 tons, from the firm of Bolckow, Vaughan, and Co., coming from their Eston Mines; 24 cwt. of coke from Messrs. Bell Brothers, and 12 cwt. of limestone will accompany the coke, so as to indicate the constituent elements that go to make a ton of Cleveland pig-iron. Messrs. Samuelson and Co. are also exhibitors of pig-iron. More interesting, perhaps, are the exhibits sent by Messrs. Stevenson, Jaques, and Co., wholesale manufacturers—an umbrella stand, a garden chair, hat racks, boot jacks, &c., all cast direct from the blast furnace, just as common pig-iron is. They are quite smooth, as if cast by the ordinary method, comprising ornamental and artistic designs. This latter is quite a new industry in Cleveland, recently introduced by the firm named, and includes all branches of domestic ironwork.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

March 21.—Furnace coal is not in improved request, neither can a much better demand be reported for forge qualities. The passing away of the severe weather is resulting in a somewhat less enquiry for household sorts. The pig-iron trade is hardly so dull as it was in the better qualities. By the blowing-in of his fourth furnace at Spring Vale Mr. Alfred Hickman is making his output a total of 1100 tons weekly. The good effect of this increased output upon the district is, however, more than counterbalanced by the recent stoppage of the two furnaces of the Osier Bed Iron Company. A better tone marks the finished iron trade.

A report is current that a plate order, extending over some 18 months, has been secured by Mr. H. O. Firmstone, and that he will consequently restart his Crookhay Ironworks, at Wednesbury, which have been closed for some months. All statements as to the re-starting of a part or the whole of the Shrubbery Ironworks in Wolverhampton, either by the present owner or by others, are premature; nothing definite has yet been decided upon.

Mines drainage matters are still a subject of much discussion by colliery owners in various parts of the district, and of the continual rising of the water in and about Bilston there are grave complaints. The Commissioners are now taking the first step towards the drainage of the mines in the Kingswinford district by draining the "Bromley" pound there. It is officially estimated that the cost of these operations will be well covered by a mines drainage rate levied on the mines benefited.

Wages disputes between colliers and their employers are just now occupying the attention of some of the local courts. Two miners have, in the Walsall County Court, after a hearing of 4½ hours, recovered from the Chartermaster of the Fishley Colliery 4*l.*—3*d.* in default of notice and 1*l.* in respect of other items. The men had been discharged because they declined to accept 4*s.* 6*d.* per yard instead of 5*s.* for driving headings. They claimed 7*l.*

The North Staffordshire Finished Iron Trade has not fallen off upon the week, taken as a whole, and the demand and prospects for the future are both improved upon three weeks and a fortnight ago. Prices are a shade firmer. The Pig-Iron Trade is hardly so dull as it was. Coal is in plentiful supply, but the demand is not so good as owners would desire.

The majority of the miners in the Tamworth district have accepted a 10 per cent. drop in wages, rendered necessary by the depression in trade.

The colliers in the Warwickshire district are, most of them, under notices which point to reduced wages, with the alternative of lengthened hours. They are meeting the action of the masters by publicly passing resolutions urging the "Coalowners in the face of the distress now prevalent to take steps to limit the output so as to raise prices, and allow of the workmen receiving higher wages."

Mr. Charles Callaway, M.A., B.Sc., F.G.S., of Wellington, writes—"It may interest your scientific readers to know that a Government grant has been made to me, on the recommendation of the Royal Society, in aid of my researches into the geology of Shropshire."

CAKEMORE COLLIERY AND BRICKWORKS, ROWLEY REGIS, SOUTH STAFFORDSHIRE.—When a colliery, situated like this, is in an iron district, and depending, therefore, very much upon local demand for the sale of its produce can, not merely live, but yield profits, while many other collieries are starving, it obviously becomes a home investment well deserving of attention, being apparently certain to make large returns when—as is sure to come sooner or later—the reaction takes place. The coal and iron trades have always been subject to periods of inflation and depression, and those who, possessing good properties, have timed over the bad times, have eventually reaped a good harvest, and so doubtless, it will be again; indeed, sensible colliery owners have always reckoned upon periodical recurrences of bad times, and averaged their profits accordingly. In most collieries there are two great drawbacks—the constant danger of explosions and the necessity for keeping the water down; the latter especially, at all times expensive and onerous, becoming doubly so when low prices make every shilling an object. From both of these serious drawbacks it appears that the Cakemore Colliery is free, there being no risk of explosion, while the colliery is virtually dry about three hours per week, sometimes less, with the buckets (not pumps) sufficing to keep down the little water made in the underground workings. On the other hand, it possesses a very great advantage in the combination of brick-making with coal-getting, thereby enabling a profitable use to be made of the slack, which—in bad times especially—is the least saleable portion of the colliery produce. The supply of the materials for brick-making is of undoubted quality, and practically inexhaustible, the clays going down from surface to about 120 yards deep, a large portion—about 18 yards thick—of which consists of the well known blue marl, from which are made the celebrated Staffordshire blue bricks, which, being imperishable, and almost like iron castings, are used not merely locally, but in all parts of the country, and even shipped abroad.

The company during last summer made about 1,500,000 bricks from the surface clay with the aid of Clayton's patent brick machinery, but finding the profit on the blue bricks much greater, and the demand far more extended, they are supplementing that plant with powerful grinding machinery, adapted for the blue marl mentioned above, and they expect to be almost immediately turning out 200,000 bricks a week (mostly blue bricks), and to be making a profit from the colliery and brickworks combined of fully 300*l.* a week. Underground the seam of fire-clay, the two seams of ironstone and the seams of coal are all intact, except the Ten-yard or Thick coal, which is here about 23 ft. thick, and of which there are about 90 acres in the maiden state. It is true that this is not the full thickness of this celebrated seam, which (as the former name implies) averages about 30 ft. thick, but the lesser thickness of the Cakemore Thick coal is in a great measure (and in bad times more than) compensated for by the saving of the heavy cost of pumping, to which most of the collieries in the deeper part of the coal field are subject, and the cost of which is so intolerable in these times that many collieries have ceased pumping, and are thereby drowning out not only their own workings, but in some cases their neighbours' also, none of which, however, can affect the Cakemore Colliery. Although the underground operations are at present confined to the driving out of the gate-roads in the Ten-yard seam towards the boundary, from whence, when they are completed, the coal will be worked back in quantity; and although this work, which is like making roads on a building estate, and comprises, of course, a large portion of the eventual expense of winning the coal, is in great measure development work, still it is being done at a

profit, the miners being paid for that work by contract prices for the coal brought to bank out of their drivings, which prices yield a fair profit even at present rates; and it is obvious that this profit must be largely increased when the expense of driving ceases, and the coal is worked back from the boundary in larger quantities.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

March 20.—The letter concerning Blaen Caelan Lead Mines, by Messrs. Church, Milled, and Co., as well as that by Mr. Pell, which appeared in the Supplement to last week's Journal, give a satisfactory explanation of the omission of the purchase price from the public notices of the mine; they must also be satisfactory to those interested in the mine, as well as to those outside who are jealous for the honour of mining. I for one wish the company in its new form every success.

Talking of Cardiganshire mines, I observed lately a good letter in the Journal from our indefatigable friend, Capt. Absalom Francis, on profitable mining in depth in Cardigan, in nearly all of which I agree. One statement, however, requires qualification. The clay-slate formation, Capt. Francis states, extends a mile in depth, and the inference is, as I understand it, that the lead mines will hold productive to that depth. Now, the clay-slate formation comprises several distinct groups of rocks known, to start no higher, as Llandilo Arenig, Singula flags and Tremadoc slates, which last repose upon Cambrian grits and slates. Now, the productive lead zone in Wales, and I may even say everywhere else, is limited in depth to near the base of the two former groups. Wherever they have been passed through, and the Singula flags are touched, lead in profitable quantities ceases, copper where the strata are of a certain character taking its place; the combined thickness of these two formations cannot in Wales be taken as exceeding 4000 ft. It, therefore, follows that supposing if at any one point these strata are complete, their upper portion not having suffered any denudation, the maximum depth of the productive lead zone will be 4000 ft. But it is seldom the strata are so complete, and the thickness of the zone will have to be reduced at any given point by the thickness of the strata that have been removed. Then, throughout the portion of the zone present there will be, as in other places, interstratified shales through which as the lodes pass they will become unproductive. What we want in Cardigan is a series of reliable sections of productive and unproductive strata passed through in the different mines by the careful correlation of which mining in that county may be placed on a safer basis.

We are so often reminded by writers on mining in this county of the successes of Sir Hugh Middleton and Mr. Bushell, that I wonder the shades of those departed worthies rest in their graves. If, however, the writers referred to will only reflect how many more losers than winners there have been in mining adventures in Cardigan they will cease to wonder that, apart from the deadness of the times, so few persons should now care to go in for the winning of the most attractive prizes.

The Van Mine keeps to the front; it paid last year in dividends 42,000*l.*, carrying a little surplus forward.

The Coal Trade of the Wrexham and Ruabon district has improved somewhat, and considerable consignments of coal are now sent by the Great Western Railway southwards. The main coal, 9 ft. thick, has just been struck at Bersham Colliery, near Wrexham. The Wrexham District Tramways Company have obtained permission to use steam on their roads. The works of the Bala and Festiniog Railway, which is to connect Festiniog with the Great Western Railway system, are about to be commenced, the necessary land having been secured.

If the Vron Slate Company conducts its business as loosely as its meeting, as reported in the Supplement to last week's Journal, it is likely never to be long out of difficulties. Capt. William Francis reports of the St. Patrick Mine that the "great discovery lies before them." The company does not abate hope, and I wish for them that the discovery may not be a long way before them.

The traction engine persecution, described in my last report, has had the effect of thoroughly arousing the inhabitants of the upper part of the Tanat Valley; Mr. Thomas Savin, the owner of the engines and the slate quarries, received quite an ovation on Friday and Saturday last at Llanrhaidr and Llangynog. At the latter place the rector of the parish presided at the public meeting. Warm expressions of sympathy were given to Mr. Savin, and the persecutors received their share of not very complimentary (Welsh) joking and other remarks. There were large gatherings of ratepayers and others at both meetings, at which it was strongly stated that the ratepayers preferred well worn roads and good trade to smooth roads and no trade. There were, of course, the customary poetical effusions, and altogether the proceedings were of a very enthusiastic character.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

March 21.—In the lead mining districts the men are working steadily; and, unlike those connected with collieries, they are contented with their position, although their wages are only that of ordinary labourers. Some of the best mines that a few years ago raised large quantities now put out but little. This has been the case with the well-known Milliclose Stoop Mines, that in 1872 produced 2446 tons of ore, being rather more than given as the entire produce of Derbyshire for 1876, in which year there were 50 mines that produced 5 tons of ore and upwards, and 90 that raised less than 5 tons. In some instances the ore has been worked out, and in others men without capital and the necessary machinery have broken ground, and after a short spell of working they have given up altogether, not being able to get sufficient ore to pay for their own labour. Many of the mines, too, are a considerable distance from any railway, which is another drawback. There are a few mines that are paying tolerably well, and there is a probability that when capital is brought to bear Derbyshire may again be placed in something like its former position as a lead-producing county. But it must not be forgotten that lead has been worked in it from the time of the Roman invasion, and that if real success is to be attained it can only be achieved by breaking into virgin ground, and such trials as would be necessary would be costly. At most of the collieries the men are either working under arrangements come to as to wages, or are under notice of a reduction varying from 5 to 10 per cent. The associated masters have agreed that the reduction shall be 7½ per cent., and this will be enforced. The demand for house coal is still moderate, and is not likely to improve now that the weather is such as to lead to a lessened consumption. Prices, too, are not only low but unremunerative. To London a fair tonnage continues to be sent, and the charge there to consumers is now exactly what it was in October, 1871, before the advance in wages commenced, whilst the carriage rate is now higher by nearly 2*s.* per ton—a fact that shows the colliery owners are in a much worse position than they have been during the last seven years. Steam coal as yet has not made any marked improvement, although the Easter season is fast approaching. At Donfield the Bessemer works are as active as ever, and are likely to continue so.

Trade in Sheffield is now much better than it has been for several months, and a considerable number of names have been taken off the relief list, although there are still many persons entirely unemployed. The heavy plate mills are working tolerably well on orders from our own Government for land batteries and defences. The other mills are also more fully employed. The demand for cast-steel is better, more especially for certain special qualities and brands, whilst table cutlery is in improved request. Large quantities of Bessemer rails are being turned out daily, and there is every appearance that this important branch will be active for months to come. Not much is being done in iron rails, but puddlers and millmen are doing tolerably well. A steady business continues to be done in malleable iron and castings of a varied character. In South Yorkshire the miners' wages question is the all-absorbing one. Some of the men show a disposition to strike against the 7½ per cent. reduction, but they are likely to think better of it, seeing that they have no funds to fall back on, whilst the masters are prepared to keep their pits standing if necessary. At Dodworth the men at the Church-lane and Silkstone come out according to a resolution passed on Wednes-

day night with respect to the proposed reduction in the price to be paid for slack, and they bring their tools out to-day. This has no reference whatever to the general reduction. The colliers are now working on the average about four days a week, whilst at some of the pits there are considerable stocks of coal—by no means a healthy sign. The iron trade is far from brisk, but the men are kept fairly going.

Sir Charles Henry Firth, of Flush, has suspended payment. Sir Charles was until lately a member of the firm of Messrs. Edwin Firth and Sons, of Heckmondwike, but some time ago he retired, went into the colliery and brick-making business. The liabilities are £2,666. Messrs. Car and Cadman, of Gomersal, solicitors, filed a petition in the Dewsbury County Court for the liquidation of the debtor's affairs by arrangement or composition. Mr. James Lake-man, of Messrs. Jones and Co., accountants, of Leeds and London, was appointed receiver. The debtor is a West Riding magistrate, and deputy-lieutenant of the county.

The annual report of William Jessop and Sons (Limited), Bright-side Steelworks, Sheffield, announces a profit of £28,000, and a 5 per cent. dividend. Owing to the drop in the price of iron the stock at the time of the formation of the company has depreciated to the extent of nearly £43,000.

The inquest on the bodies of the seven colliers killed by the explosion at the Maindell Pit of the Whiston and Wigan Colliery Company was concluded on Wednesday before Mr. C. E. Driffield, at Huyton Quarry. Besides the deceased, 16 other men were injured. James Mackinson, underground manager, deposed to the efforts to repair the stoppings through which the smoke escaped from old workings. Several explosions occurred shortly after each other. He had never worked in a mine so liable to explosions from spontaneous combustion. John Howard, chief fireman, attributed the disaster to gas collecting in the stoppings, and through the imp-rect packing fresh air must have got in. The gas would be non-explosive without the fresh air. He did not think there had been a fire from any other cause than spontaneous combustion. Another fireman said he had never known smoke to come from where the explosion was previous to this. Mr. Fidler, managing director of the company, said that spontaneous combustion was a difficulty they had to contend against for three years. They had now determined to close the mine altogether. Everything had been done to guard against danger. Mr. Hall, Government Inspector of the district, said that two years ago there was a similar explosion in the mine, and at the desire of Mr. Fidler 20 of the best mining engineers decided that sand stopping backed by material was the best thing for cutting off the old workings. The jury returned a verdict that the men lost their lives by accidents, and praised the manager and all connected with the colliery for their efforts to save life.

An important case in connection with the working of collieries was heard at the Swadlincote Petty Sessions, on Tuesday, arising out of the new system of working introduced within the past few months at the Donisthorpe Colliery. The old system was that usually adopted in the district, but as this was found to leave a great deal of coal in the parts of the pit which were worked it was resolved to try a new system. This new system was to build "packs" to support the roof after the coal had been taken away, and the roof was built of stone. The roof gradually settled on the "packs," and as there was then a layer of coal on the "packs" it was resolved to disturb the "packs," remove the coal, and use timber supports where the coal had been. On Nov. 16 there was a fall of roof, and a man was killed, and on Jan. 16 there was a second fall, and a second man was killed. The attention of the district inspector was called to the matter, and he, after investigating the circumstances, came to the conclusion that the fall of roof was due to the interference with the "packs," and he reported the matter to the Home Secretary, who ordered the present proceedings to be instituted. A good deal of correspondence had passed between Mr. Evans and Mr. Checkland, the latter of whom admitted in one of his letters that the object of the new system was to get as much coal from the pit as possible, and to prevent fires by spontaneous combustion. The system was condemned by Messrs. Evans, Stokes, and Wynne, Government Inspectors, and by Mr. Howe, manager of the Netherfield Colliery, but Mr. G. E. Checkland, the defendant, Mr. Millership, engineer, Mr. Hardy, manager, and Mr. Coke, consulting engineer, were called to show that the system was a safe one, although the latter gave his opinion with reservation, after hearing the opinions of the gentlemen called for the prosecution. The Bench believed that the charge was fully proved, and fined the defendant £10, and costs.—There were five other charges, but they were withdrawn.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

March 21.—As time goes on the Iron Trade does not improve, and although at a few of the local centres there appears to be a little more doing, yet this is not the general condition of the establishments, many of which are only just kept on the move. There are a few colonial orders in hand, and clearances during the week have been to Australia, New Brunswick, Spain, and Denmark. Buyers still seem to be holding back, apparently thinking that the masters will make a reduction in prices, but under the present state of affairs they are hardly likely to give way. Quotations are now so low as to make it extremely difficult to get a profit. For rails the demand is still dull, but a little more animation is apparent in the pig-iron department. Bars are still in limited request. The steel works show about the usual amount of activity, and at the tin-plate establishments full time is the order of the day. Prices are, however, unsettled, and as low as ever.

The Coal Trade is not materially changed. Shipments are maintained up to about recent averages, and the foreign demand is fairly kept up for steam coal. Some of the collieries are much better employed, and we do not hear quite so much of prevailing distress among the workmen and their families. The output is still in excess of the demand, and prices are at the same low ebb. The house coal department is dull, and is likely to remain so. In fact, throughout the winter this branch of trade has been inactive. Patent fuel is in a little better demand.

The retirement of Mr. R. Leybourne, who has had the management of the Rhymney Works for the last ten years, is announced as about to take place. He is to be replaced by Mr. David Evans, of the Ebbw Vale Works, and the company will in him lose one of their most valuable officials.

A meeting of the Sliding Scale Committee of the South Wales Conciliation Board has been held at Cardiff, but the business transacted was of a routine character. The agreement of the men to continue working at the 5 per cent. reduction was confirmed.

The death of Mr. W. G. McMurtrie, of Llwynypia, and manager of the Glamorgan Coal Company's collieries, is announced. The deceased gentleman was well known in the Rhondda Valley, and much respected by those with whom he was brought in contact through business matters.

An action brought by the Nant-y-Glo and Blaenau Ironworks Company (Limited) against Mr. Grave, one of the original directors of the company, has been successful. The case was tried in the Chancery Division, and occupied two or three days. The company desired an order of the Court that the defendant was liable to the account for 50 1000 shares, which formed part of the fully paid-up shares received by the promoters of the company. It was ordered that defendant should pay 800 per share with interest at the rate of 4 per cent. from the time he received the shares, and also pay the costs of the Court.

On a creditor's petition the Hafod Lead Mining Company has been ordered by the Chancery Division to be wound up.

The Great Western Colliery Company shareholders have met at Bristol and decided on a reconstruction scheme. The company, it will be remembered, is in liquidation, and the present directors were at this meeting appointed an advising committee to confer with the liquidators.

At a meeting of the Newport Town Council, on Tuesday, it was agreed to petition the House of Commons in favour of the Pontypridd, Caerphilly, and Newport Railway Bill, which has for its object the direct communication of the town and port of Newport with the Rhondda Valley. At Pontypridd yesterday an influential meeting of colliery proprietors and others was held, when it was resolved to strongly support this Bill. A public meeting is also to be called at Newport with the same object in view.

A case of some importance to colliers has been tried at the Pentre (Rhondda Valley) Police Court. A number of men were charged with leaving their work at the Gelly Colliery illegally. The defendants left their work in consequence of the colliery being flooded. They were offered employment in another part of the colliery but refused, and obtained employment in another colliery. It was contended that, although the Gelly Pit was flooded, the men might have brought out their tools, which was the custom on leaving one colliery for another. The case was adjourned for a week to enable the men to comply with the custom. It appeared that the company had not sustained any damage.

An explosion has occurred in the No. 2 Clynnil Pit, belonging to the Aberdare and Plymouth Company. Two youths were killed,

and two men burnt severely. Naked lights were used in the pit, and carelessness in leaving a door open seems to have caused the accident.

Persons connected with shipping are much interested in the discussion now taking place in Cardiff as to the Cefn-y-Wrach shoal. The pilots allege that at certain stages of the tide it is dangerous to take ships through an outlet from the Bute Docks to the Bristol Channel, in consequence of the shoal named. A channel has been cut through the shoal by the Bute trustees, but the pilots allege this has been silted up. The Pilotage Commissioners think otherwise, and have suspended a pilot for twelve months for refusing to take a vessel through. The shipowners and brokers, as well as the pilots, have petitioned the Board of Trade to enquire into the matter; whichever side is right, it is manifest the shipowners suffer through the napping of their ships.

The Wayne's Merthyr and Aberdare Steam Coal and Iron Company (Limited) have at their Dylas Works, Llwydcoed, succeeded in landing a large lump of coal measuring 10 ft. by 3 ft. 9 in., and estimated to weigh about 6 tons. It is to be sent to the forthcoming International Exhibition. It was not a small matter to land such a monster, and credit is due to Mr. Pugh, the manager, and his men for the excellent manner in which they went to work. Also to Mr. L. Jolliffe, of the Lower Pit, who rendered valuable services during the last few days of the undertaking.—The Gady's Company have also raised a large piece of coal for exhibition at Paris. It was taken to the Great Western station on a trolley, drawn by six horses. Experienced judges estimate its weight at nearly 5 tons. As it lay on the trolley it measured nearly 9 ft. in length, 5 ft. in depth, and more than 3 ft. in thickness. Unfortunately it became cracked to some extent, near the centre, in transit from the upper Gady's pit to the station.

At the Swansea Ticketing, on Tuesday, 3673 tons of copper ore were sold, realising 18,167. 1s. 6d. The particulars of the sale were—Average standard for 9 per cent. produce, 82. 3s. 5d.; average produce, 8 11-16ths; average price per ton, 4. 18s. 11d.; quantity of fine copper, 319 tons. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Feb. 26	2539	82 1/2	8 1/2	4 13/16	12s. 0 d.	£80 0 0
March 19	3673	82 3/5	8 11-16ths	4 18s. 11d.	11 1/2	£6 19 0

Compared with the last sale, the decline has been in the standard 3/18s., and in the price per ton of ore about 6s. 9d. Messrs. Richardson report that Betts Cove gave a produce of 6 1/2, and sold at 11s. 4d. per unit; Seville, produce 6 1/2, per unit 10s. 6 1/2d.; Quebrada, produce 1 1/2, per unit 11s. 11d.; Negriello, produce 7, per unit 10s. 3 1/2d.; Berehaven, produce 10 1/2, per unit 11s. 7 1/2d.; Portuguese, produce 2 1/2, per unit 12s. 4d. There will be no sale on April 2.

At Truro Ticketing, on Thursday, 2555 tons of copper ore were sold, realising 7572. 13s. 0d. The particulars of the sale were—Average standard, 93. 4s.; average produce, 6 1/2; average price per ton, 2. 19s. 6d.; quantity of fine copper, 156 tons 13 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Feb. 21	2637	97 8	8 1/2	£3 3 6	10s. 4 1/2 d.	£31 17 0
Mar. 7	1503	87 5	8	4 5 0	10 7	£2 19 0
" 21	2555	93 4	6 1/2	2 19 6	9 8	£3 7 0

Compared with the last sale, the decline has been in the standard 2/10s., and in the price per ton of ore about 3s. 1d.

Mr. W. C. Cooper (Cooper and Co., King's Arms-yard) has been appointed liquidator of the Trades Bank, lately started in New Bridge-street.

Mr. J. S. Wilkes, many years with the Life Association of Scotland, has been appointed manager of the National Safe Deposit Company.

LIVINGSTONE CONSOLS.—It is considered by competent authorities that this admirably situated mining property will be quickly brought into a very advantageous position. There appears to be no reason why considerable quantities of mineral may not be raised, and should this be done at a shallow depth, with but little expense, the results may be easily anticipated.

DUBBY SYKE.—The vein recently discovered in this mine is fully 6 ft. wide, and mixed throughout with lead ore and soft red mineral, carbonate of barytes, &c. Teams for the work, grates, &c., for dressing ore, and other surface works are going on, and a rise is being put up in the vein to surface for ventilation. A new road has been made to within a few yards of the proposed dressing-floors, thus connecting the mine with the Middleton Teesdale Railway Station, and in the course of the present year this road will be continued and completed, so that the mine can be reached also from the Alston Station, and both roads free of cost to the Dubby Syke Company.

GROGWINION.—The sampling this month is 150 tons of lead, instead of 100 tons, as usual. The new discovery on No. 3 lode, below the bottom level, is opening out a very rich run of ore ground, superior to anything in the other parts of the mine.

SOUTH CWMYSTWITH.—The first sale of lead (40 tons) is to take place on Wednesday next.

NORTH CORNWALL.—This mine has been inspected by another agent of considerable eminence, and his report is in the highest degree satisfactory. There appears to be no doubt now that those mostly interested have ample justification for the contemplated measures, and that a dividend mine may be the result.

SAINT PATRICK.—The most favourable accounts continue to be received from this mine. The ore in the 120 cross-course, upon which the cross-cut is being driven, is steadily increasing in quantity, and there are certain indications of an east and west lode being close at hand.

LEAD MINES.—The long depression and heavy fall in the price of lead and lead ore has, no doubt, been most depressing to the shareholders in all the dividend and other mines making large returns, especially to such mines as Van, Great Laxey, Roman Gravel, Tankerville, Leadhills, Minera, &c.; but notwithstanding this deplorable state of things, shareholders should not be downhearted and sacrifice their property, simply because a temporary depression exists; and when the fact is taken into account that in 1869 (the year that the Van Mine was brought before the public) the price of metal was then only about 19. per ton, as against 18. now, showing a difference of 1. per ton. The price of the ore during this period of nine years, has fluctuated between 12. and 17., showing a difference of 5. per ton. There is an old adage—"When things get to their worst they generally begin to mend." Now, from all the information at our command we have every reason to anticipate and believe that a brisk demand will, ere long, spring up for lead, and consequently the price of ore must advance in a similar ratio. Then would speedily follow a material and beneficial advance in the value of all good lead mine shares, as in times past, on the termination of similar periods of depression. Undoubtedly this appears to be a most favourable time for investing in well-managed and sound lead mines.

DEPRESSION IN THE COPPER TRADE.—Messrs. Vivian, of the Hafod Copperworks, Swansea, are discharging a number of their workmen; and other firms in the Swansea district contemplate reductions of their staffs. Hitherto the depression of trade has not seriously affected Swansea.

LONDON INVESTMENT CIRCULAR.—The March number of Messrs. TALLENTIRE'S Circular contains an interesting review of the Stock Exchange markets, in which the position and prospects of foreign bonds are very ably discussed. What they say of Bolivian apply equally to all. They are a risky stock to touch, but there may be profitable speculation in them under prudent guidance, if the operations are at the right moment. Nearly all other foreign bonds have been in favour lately, but the market is uncertain, and at any moment there may be a backward turn of the tide. In these circumstances wise dealers are thrown more and more upon home securities, of which there is a large choice. If we name home railway stocks first, it is not, however, because they are to be considered the most eligible; in fact, the prices of nearly all our railway stocks have been driven up to so high a level of late that the greatest care and circumspection are requisite in touching them. The favour shown for the passenger lines is not without warrant, for their traffic continues to develop wonderfully, even though goods traffic in other lines falls away. In the dearth of trustworthy profitable foreign investments, it is inevitable that more attention should be directed to railway enterprises, which are being multiplied, and afford an excellent field for the employment of capital. British mines have been very quiet, and with few ex-

ceptions quotations are nominal. Now is the time for the bona fide investor to look about for bargains; with a little advance in prices of metals, especially lead and tin, which is sure to come before long, a general revival in the prices of British mine shares would take place. Many properties are now selling at ridiculously low rates, when their prospects are taken into account, but great care, however, must be exercised in the selection.

QUICK DRIVING.—At the Rushen Mine, Isle of Man, in a cross-cut 6 ft. wide by 7 ft. high six men and three labourers drove by means of two Darlington rock-boring machines for week ending the 16th instant 9 yards 1 foot. The weight of stuff removed was 103 tons. All the shot holes, which varied from 42 to 48 inches deep, were electrically fired. The time occupied in charging and blasting eight cuts of ground was 10 hours.

TREATING BURNED ORES.—An improved process for the treatment and use of certain metallic residues which result when iron pyrites containing copper are submitted to a burning process in the production of sulphuric acid, has been patented by Mr. JAMES MASON, of Eynsham Hall, near Witney. It consists in, firstly, subjecting the burnt ore in its residual condition, without having been previously subjected to pulverisation or to disintegration, to the action of a solvent of the soluble salts of copper contained therein, such, for example, as water, or of water acidulated either with hydrochloric or with sulphuric acid, and after having effected the extraction of the compounds of copper, which by burning have been converted into a soluble form, submitting the residues thus treated to a process of calcination, in order that the whole, or practically the whole, of the residual sulphur which may be contained in the residues may be expelled, and the residues in their undivided condition be rendered directly available for the production of iron or steel either in the blast or in any other furnace. He mentions that in practice the residues he prefers operating upon are those which result from the burning of pyrites containing on an average from about 1/2 to about 2 per cent. of copper, as he has found that such residues when treated by this process give good results, but residues containing other proportions of copper may be employed.

NEW SOUTH WALES.—COAL.—The export of coal from the Hunter River collieries for the three weeks ended Jan. 25, amounted to 61,234 tons, of which 13,934 tons were shipped to Sydney, 17,521 to Victoria, 7551 to South Australia, 10,034 to New Zealand, 1090 to Tasmania, 150 to Queensland, 2214 to various colonial ports, 2607 to China, 1343 to Eastern ports, 390 to San Francisco, 1619 were taken by steamers, and 2438 were raised for home consumption.

Amidst the collateral results of mining in New South Wales and Victoria may be mentioned the remarkable fact that a considerable depth below the surface of the earth in these colonies, the relics of a flora, which has long since passed away, are being gradually brought to light. From these remains of primeval vegetation it would appear that where gum-trees and apple-trees now prevail, a very different order of trees once flourished, and that the impression which these made on the landscape was characterised by features of peculiar interest. In the appendix to the report of the mining surveyors in Victoria for 1877 a new fossil of the genus Wilkesonia is described. Specimens of this (W. filiformis) were procured at a depth of 130 ft. under basalt, at Benerea, by Mr. C. S. Wilkinson, F.G.S., and Mr. Farr; whilst in the black lead of Gulgong, at a depth of 175 feet beneath a layer of basalt, Dr. C. Barnard found similar fossils. Baron F. von Mueller, to whom the specimens were submitted for examination, is of opinion that the plant producing the remarkable fruit now existing only in a fossilised state, may have belonged to the order of Siphonaceae. He also observes that the fossil treasures of that particular period, the Upper Pliocene, are by no means exhausted; and hence the progress of discovery in this department of science may lead to important conclusions respecting the early vegetation of Australia.

— Sydney Morning Herald, Jan. 31.

GEO. G. BLACKWELL, 5, CHAPEL STREET, LIVERPOOL.

PURCHASER OF MANGANESE, ARSENIC FLUOR-SPAR, WOLFRAM, BLENDE, CALAMINE, CARBONATE AND SULPHATE OF BARYTES, ANTIMONY ORE, CHROME ORE, MAGNESITE, EMERY STONE, PUMICE STONE, COBRES AND UMBERS, CHINA CLAY, LEAD ORE FOR POTTERS, TALC, &c.

£10,000 REQUIRED, IN ONE OR MORE SUMS, ON LIMITED LIABILITY, FOR THE FURTHER DEVELOPMENT OF A NATIVE COPPER MINE (similar to Lake Superior) now at work, and situated in an Island in the Mediterranean. Principals or their solicitors only treated with.

Samples, plans, and reports will be placed at the disposal of bona fide investors by applying to CHARLES HARCOURT, Esq., Solicitor, 19, King's Road, Bedford-row, London, W.C.

THE ADVERTISER, having had large experience in Gold Quartz Mining, is OPEN to an ENGAGEMENT as MANAGER, or in any way to assist in the development and economical working of a mine. Has a practical knowledge of underground work and surface operations, and is competent to superintend the erection and working of crushing and concentrating machinery. Reliable reports made on Mines.

Address, "M. E." care of Mr. T. Jenkins, Odd Fellows' Hall, Bristol.

THE CHINA CLAY TRADE.

THE ADVERTISER, who is engaged in the Management of China Clay Works, has exceptional opportunities for the EMPLOYMENT OF CAPITAL in this IMPORTANT AND PROFITABLE INDUSTRY. Owing to the temporary depression in trade, there are now opportunities for investment which may not occur again for years, and handsome profits are certain.

Address, "C. E." MINING JOURNAL Office, 26, Fleet-street, London.

MINES OF EVERY DESCRIPTION, AT HOME AND ABROAD, CAREFULLY INSPECTED AND VALUED.

Address, MARSHALL and Co., St. Antholin's Chambers, 26, Budge-row, Cannon-street, London, E.C.

SOUTH DARREN.

FOR SALE, FIFTY fully paid-up SHARES, at 37s. 6d. per share.—The mine is making a good profit, and will soon do even better.

Address, Mr. C. E. CORNWALL, 73, Balfour-road, Highbury New Park, N.

MINING ADVENTURE.—THE UNDERSIGNED ARE PROPRIETORS OF MINES, MINE PROMOTERS, AND DEALERS IN MINING SHARES AND STOCKS of every description. Durham, North of England, Scotland, and Derby specially selected as mining districts.

Exchange, 65, Coleman-street, London, E.C. TREDINNICK AND CO.

WHITTINGTON SILKSTONE COLLIERY COMPANY (LIMITED), CHESTERFIELD.—TWENTY-ONE (£20) SHARES

(£15 10s. paid) TO BE SOLD, to close an account.

Offers to be addressed "J. W.", 25, Danube-street, Liverpool.

MR. HENRY SEWELL, MINING ENGINEER.

Cables will reach him, by simply addressing—"SEWELL, SAN FRANCISCO."

MR. WILLIAM SALMON, F.G.S., 22, QUEEN STREET, ULVERSTON.

MINING AND COMMISSION AGENT AND ACCOUNTANT.

SEVERAL VALUABLE IRON ORE, SLATE AND LEAD ROYALTIES, TO DISPOSE OF.

MR. TIMOTHY HUGHES,

MINING AGENT AND SHAREDEALER, 59, SEEL STREET, LIVERPOOL.

Reliable information given respecting Welsh and Manx Mines.

PRINCE PATRICK MINE.

New Issue of 12,000 Preference Shares.

T. H. strongly recommends his friends and the public to secure an interest in this very valuable mine while the shares can be obtained under such favourable circumstances.

See report in Supplement to Mining Journal, March 9th, also advertisement in Journal of March 16th.

NOTICE OF NEW ADDRESS.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER, begs to inform his clients that he has REMOVED his BUSINESS from 4, Royal Exchange Buildings, to—

No. 9, GRACECHURCH STREET, LONDON

(Established 28 Years).

Mr. Budge has dealings either as Buyer or Seller, at close net prices, in Corn, Van, Roman Gravel, Tankerville, West Wye Valley, Great Laxey, Grogwinion, Lisburne, D'Ereby, Marke Valley, Wye Valley, Bedford United, Exchequer, Richmond, Frontino, South Aurora, Last Chance, Red Rock, Ladywell, Flagstaff, Elmhurst, South Cwmystwith, Chontales, South Frances, West Frances and Hornchurch.

MR. BUDGE BEING A DEALER, DOES NOT CHARGE COMMISSION.

SPECIAL BUSINESS IN SHARES OF THE CARON LEAD MINE (Limited).—This very promising mine is situated near to the Lisburne and Grogwinion Mines, and contains parallel lodes thereto. All the capital is subscribed, and the works are in full operation. Sales of lead will commence directly the new dressing machinery is erected. These shares are strongly recommended for an early rise in price. Present quotation, 2 1/2 to 2 3/4, at which Mr. Budge is prepared to deal. Full particulars on application.

WEST WYE VALLEY.

This property is now making regular returns of lead. Several parcels have already been sold, and others are preparing. The shares are well worth attention. Price 2 1/2 to 2 3/4.

ADDRESS—9, GRACECHURCH STREET, LONDON, E.C.

THE RICHMOND CONSOLIDATED MINING COMPANY (LIMITED).
NOTICE TO DEBENTURE HOLDERS.
The Directors hereby give notice, that the DEBENTURES falling due and payable on the 25th March instant will be PAID at the company's bankers, the Union Bank of London, Princes Street, E.C., on and after that day. The COUPONS also due and payable on the same 25th day of March will be PAID at the same time and place.
By order of the Board,
HUBERT AKERS, Secretary pro tem.
Offices, 44, Coleman-street, London, E.C., March 20, 1878.

NOUVELLE MONTAGNE COMPANY, BELGIUM.
The ANNUAL GENERAL MEETING of the Shareholders will be HELD at the Hotel d'Angleterre, Liège, on SATURDAY, the 13th of April next, at One o'clock P.M.

THE BRAZILIAN COMPANY
(Late of No. 9, Liverpool-street, London, E.C.)
HOLDERS OF SHARES in this (extinct) COMPANY, their EXECUTORS or ADMINISTRATORS will BENEFIT THEMSELVES BY SENDING PARTICULARS OF THEIR HOLDINGS TO "W. H. C." MINING JOURNAL OFFICE, 25, Fleet-street, London, E.C.
Name in full
Address
Number, and amount paid upon shares
Date of last communication from directors of the company.....

LOSSIEMOUTH LEAD MINE, COUNTY OF ELGIN, N.B.
Full particulars, including copies of the reports made by the several engineers who have inspected the property, may be obtained, and samples of the ore seen, at No. 66, ST. CLEMENT'S HOUSE, CLEMENTS LANE, LONDON, E.C.

M. R. J. S. M. E. R. R. Y.,
ASSAYER AND ANALYTICAL CHEMIST, SWANSEA.
Mr. J. H. COLLINS, F.G.S.,
PUBLIC ANALYST for the County of Cornwall and Borough of Penzance,
UNDERTAKES THE ANALYSIS of all articles of FOOD, DRINK, DRUGS, MINERALS, MANURES, SOILS, or COMMERCIAL PRODUCTS. Also the INSPECTION OF MINERAL PROPERTIES.
Private Instruction given in Practical Chemistry, Mineralogy, or geology.
For terms, apply by letter, 57, Lemon-street, Truro.

JOHN L. M. FRASER,
BERSE COTTAGE, NEAR WREXHAM.
FOURTEEN YEARS at the Great Miners' Mines.
MINES FAITHFULLY REPORTED ON, AND MINING ACCOUNTS CAREFULLY AUDITED.

C. H. WALKER AND CO.,
MINING AGENTS AND ENGINEERS,
VALPARAISO AND SAN IAGO, CHILE.
Mr. E. JACKSON,
Associate of the Royal School of Mines,
ANALYST AND ASSAYER.
Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and other Ores.
ASSAYING TAUGHT.
106, QUEEN VICTORIA STREET, LONDON, E.C.

TO CAPITALISTS, INVESTORS, AND OTHERS.
THOMAS WHITE AND CO.
HAVE HAD OVER TWENTY YEARS' EXPERIENCE IN SLATE QUARRYING, AND SEVEN IN MINING.
SLATE QUARRIES AND SLATE PROPERTIES INSPECTED AND FAITHFULLY REPORTED UPON.
ESTIMATES AND PLANS FURNISHED.
THE MANAGEMENT OF QUARRIES UNDERTAKEN.
NORTH ROAD, CARNARVON.

WM. W. KENRICK AND CO.
CONTRACTORS.
ROCK BLASTING, SHAFT SINKING, TUNNELLING, MINING, &c.,
WITH DRILLING MACHINERY, HIGH-EXPLOSIVES, AND ELECTRICITY.—A SPECIALITY.
WORK SOLICITED AT HOME AND ABROAD.
(LONDON OFFICE),
8, VICTORIA CHAMBERS, WESTMINSTER.

EMMENS AND CO. (LIMITED),
MINING ENGINEERS AND MANUFACTURING CHEMISTS.
CHIEF OFFICE,
124, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.
MINING DEPARTMENT.—The Management of Mines undertaken, and Technical Reports and Surveys made.
CHEMICAL DEPARTMENT.—Ores, Minerals, Acids, Salts, Arsenic, Pigments, Dyes, &c., manufactured and dealt in.

PRINCE PATRICK LEAD MINING COMPANY, LIMITED.
The above company having passed the following Special Resolution, viz.:—
"That the capital of the company be increased from £18,000 to £30,000, by the issue of 12,000 preference shares of 2s. each, allowing a discount of 4s. per share, the said shares to be entitled to a preference dividend of 10 per cent."—
The Directors are PREPARED TO RECEIVE APPLICATIONS for 4000 of the above SHARES, which are now offered to the public on the same terms as to the present shareholders. Payment—2s. on application, and 2s. on allotment, with the discount allowed of 4s. per share, will be equivalent to 8s. per share paid, and will entitle the holder to a preference dividend of 10 per cent. thereon.
The remaining 12s. to be called up, if required, in instalments not to exceed 2s. per share.
Forms of application for shares, and all particulars may be obtained on applying to Mr. THOMAS HUGHES (the secretary), at the Registered Offices of the Company, 59, Seel-street, Liverpool.
To secure an allotment application for shares must be sent to the office of the company or to before April 4 next.
Full particulars of the General Meeting held to pass the above resolution, with Captain's report, &c., will be found in the Mining Journal of March 9th.

THE ADVANCE BANK (LIMITED).
Capital £250,000, in Shares of £5 each.
OFFICES,
11, POULTRY, AND 24, QUEEN VICTORIA STREET, LONDON.
Daily Telegraph.—"Established for the purpose of making advances on the deposit of actual property."
Sunday Times.—"We have no doubt the undertaking will commend itself to investors."
Morning Advertiser.—"Do not propose to do discount business, but will accept current accounts."
Civil Service Review.—"Will afford to the public a means of investing large or small sums profitably, and at the same time safely."
The New Bank.—"The New Bank should be in a position to secure a good return on the capital employed by it."
Economist.—"To make advances on the deposit of actual securities readily convertible."
Morning Post.—"Deposits may also be made to provide endowments."
Money Market Review.—"To make advances upon those kinds of property of which existing banks have no facilities for ascertaining the value."
Manchester City News.—"Its depositors will be absolutely secured, because the money will only be lent upon tangible security, while even the borrowers will be protected, because they cannot get into debt at the Advance Bank."
North British Mail.—"Offers excellent inducements to investors."
Investor's Guardian.—"Will be welcomed by those of the investing public who cannot afford risk of possible loss."
For Prospectuses and Press notices, apply to—
W. LICHFIELD, Secretary.

THE ADVANCE BANK (LIMITED).
DEPOSITS RECEIVED at ten days' call at 4 per cent.; one month's, and for longer periods at increased rates.
Current accounts opened, and interest allowed on average balance.
Apply to the Secretary—
11, POULTRY, AND 24, QUEEN VICTORIA STREET, E.C.
CAPTAIN ABRAHAM FRANCIS, MINING AGENT,
ENGINEER, AND SURVEYOR, GOGGINA, ABERYSTWYTH.
FOUR MINES CERTAIN FOR A RISE.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the AMBROSE LAKE TIN AND COPPER MINING COMPANY (LIMITED).—ALL CREDITORS or CLAIMANTS of the ABOVE-NAMED COMPANY who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their SEVERAL DEBTS or CLAIMS at the Registrar's Office, Truro, on Saturday, the 30th day of March instant, at Eleven o'clock in the forenoon, or in default thereof they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents at the time and place above mentioned.
FREDERICK MARSHALL, Registrar.
Dated Registrar's Office, Truro, the 20th day of March, 1878.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the AMBROSE LAKE TIN AND COPPER MINING COMPANY (LIMITED).—By direction of His Honor the Vice-Warden, Notice is hereby given that, on Thursday, the 4th day of April next, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, the Court will PROCEED to MAKE a CALL of ONE POUND PER SHARE on all the contributories settled on the List of Contributories of the above-named company, as present members thereof, in respect of the shares numbered in the share register 1 to 6000. All persons interested therein are entitled to attend at the time and place above said to offer objections to such call.
CHARLES WILLIAM CLINTON, Official Liquidator.
Dated Stannaries Court Office, March 20, 1878.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the SOUTH GREAT WORK MINING COMPANY.—By direction of His Honor the Vice-Warden, Notice is hereby given that, on Wednesday, the 3rd day of April next, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will PROCEED to MAKE a CALL of ONE POUND SIXTEEN SHILLINGS AND EIGHT PENCE PER SHARE on all the contributories of the said company settled on the List of Contributories as present members thereof. All persons interested therein are entitled to attend at the time and place above said to offer objections to such call.
CHARLES WILLIAM CLINTON, Official Liquidator.
Dated Registrar's Office, Truro, March 21, 1878.

TO BE SOLD, pursuant to an Order of the High Court of Justice (Chancery Division), made in an action "DAVIS v. ASHWIN," with the approval of the Vice-Chancellor HALL, by Mr. JAMES STRAKER, the person appointed by the said Judge, at the Angel Hotel, at Aberystwyth, in the county of Monmouth, on the 28th day of March, 1878, at Two for Three o'clock in the afternoon, in Six Lots, certain

FREEHOLD AND LEASEHOLD ESTATES,
Situate in the parish of Llanelly, in the county of Brecon and Aberystwyth, in the county of Monmouth, comprising:—

LOT 1.—THE LLANELLY LOWER FORGE AND TIN-PLATE WORKS, containing 44A. 0R. 20P. or thereabouts, held on lease for a term of 21 years from 24th June, 1863 (less 10 days), at a rental of £268 per annum, reduced by land and cottage rents to about £120 per annum; with the house known as Clydach-house, suitable for the manager's house, standing in its own grounds of about two acres, and held on lease for a term of seven years from 1st May, 1873 (less 10 days), at a yearly rent of £45.
LOT 2.—THE CLYDACH BARIRON WORKS, situate on freehold land of about 42A. 1R. 20P., together with 60 cottages or dwelling-houses thereon, producing £280 per annum, or thereabouts; and the Plant and Machinery at the works.
LOT 3.—A LIMESTONE QUARRY AND LIME WORKS, of which the quarry is held for a term of 21 years (less 10 days) from the 29th September, 1863, at £50 per annum, redeemable in royalties, and the kilns are held under the Duke of Beaufort, two guineas per annum.
LOT 4.—THE PENFFYDDLWYN FREEHOLD FARM, containing 46A. 22R. 7P., or thereabouts, on which are stables, shops, storehouses, and 90 cottages.
LOT 5.—THE MILBRAEN COLLIERY, containing 287A., or thereabouts, held on lease for 60 years (less 10 days) from 25th December, 1861, at a dead rent of £1000 per annum, redeemable in royalties.
LOT 6.—THE TILLEY LEASEHOLD COLLIERIES AND GELLY CRUG FREEHOLD MINERAL ESTATE, situate in Aberystwyth, in the county of Monmouth. The total area comprised in the leases is 588 A., or thereabouts, part of which, known as Green Meadow, is held for a term of 45 years (less 10 days) from 21st December, 1860, at a dead rent of £600 per annum, and varying royalties; other part of which, known as glebe, is held for 21 years (less 10 days) from 29th September, 1869, at a dead rent till 1870 of £150 per annum and varying royalties; other part of which, known as part of Rhiw Park, is held for a term of 50 years (less 10 days) from 1st January, 1867, at a dead rent of £25 per annum, and varying royalties; other of which, known as Blaenavon Mountain, is held for 50 years (less 10 days) from 31st December, 1861, at a dead rent of £1500 per annum, and varying royalties; and other part of which, known as Twyn-y-pentre, is held for 21 years (less 10 days) from 1st January, 1873, at a dead rent of £100 per annum. The Gelly Crug Freehold Estate comprises about 47A. 1R. 13P., part of which is let out in building sites, producing £200 per annum.
Particulars of contents of each lot may be had gratis of Messrs. TILLEY, GODFREY, and HOLME, Solicitors, 34, Old Jewry, London, E.C.; of Messrs. WING and DU CME, Solicitors, 1, Gray's Inn Square, London, W.C.; of Messrs. GEO. DAVIS, MORGAN, and CO., Solicitors, 63, Coleman-street, London, E.C.; of Messrs. GARR and WALFORD, Solicitors, Aberystwyth (at whose offices the various leases may be inspected); and of the Auctioneer, at Aberystwyth, and at the place of sale.
WILLIAM BINNS SMITH, Chief Clerk.
Dated this 1st day of March, 1878.

VALUABLE MINING MACHINERY AND MATERIALS AT DING DONG MINE, NEAR PENZANCE, CORNWALL, FOR SALE.
MR. A. BERRYMAN has been instructed to OFFER FOR SALE, BY AUCTION, on the Mine, on Tuesday, the 26th March, 1878, at Eleven o'clock in the forenoon, the whole of the

MACHINERY AND MATERIALS
In separate lots, consisting of—
ONE 40 in. PUMPING ENGINE, 9 ft. stroke, with TWO 9 tons BOILERS and FITTINGS.
ONE 30 in. PUMPING ENGINE, 6 ft. stroke, with ONE 9 tons BOILER and FITTINGS.
ONE 25 in. WINDING ENGINE, double acting, 5 ft. stroke, with ONE 5 tons BOILER and whim cage.
ONE 18 in. WINDING ENGINE, double acting, 5 ft. stroke, with ONE 5 tons BOILER and whim cage.
ONE 24 in. STAMPING ENGINE, with TWO 9 tons BOILERS, fly wheels, three stamp axles for 40 heads, with heads, lifters, &c., complete.
PUMPS: 6 in. 30 fms. 12 in., 28 fms. 9 in., 30 fms. 2 in., 160 fms. 7 in., 188 fms. 6 in., 30 fms. 5 in., and 20 fms. 4 in.
Ten plunging poles from 5 to 12 in., with 12 and top door pieces, pole cases, &c.; six balance bolts, two angle ditto; 250 fms. main rods, 10 to 6 in., with strapping plates, and rod pins of same; 180 fms. 2 1/2 in.; 170 fms. 2 in.; 160 fms. 1 1/2 in. round iron rods; five shaft tackles, with sheaves from 10 to 12 ft. diameter, with plummer blocks and brasses of same; two capstans; three shears, with sheaves, plummer blocks, and brasses; 800 fms. bridge railway iron; 600 fms. of flat ditto; 300 fms. 5/8 in. chain; a large quantity of steel and iron wire rope; six iron skips; eight tram wagons; 205 sheaves of various sizes; 680 fms. 5 in. skip road runners; 130 fms. wood launders; 300 fms. iron stave ladders; 127 pulley and other stands; four crab winches; five pairs double and treble blocks; four pairs yokes; 2 tons flange bolts; a large quantity of bucket, probe, brass forms, rings, staples, and attached for working rock down; 60 fms. 14 in. PITWORK; 24 fms. 8 in. ditto; 10 fms. 11 in. ditto; 10 fms. 12 in. ditto; ONE MCKEAN'S ROCK DRILL, with 160 fms. 3/4 in. and 20 fms. 1 1/4 in. wrought iron pipes; ONE 22 in. Cornish CRUSHER; ONE 12 head STAMPS; ONE BRUNTON'S CALCINER; and a large quantity of other useful mining material.
For further particulars, apply to the Agent on the mine (who will give every facility for inspecting the said plant, &c.); to Mr. MOSES BAWDEN, Church-lane, Tavistock; to the Auctioneers, at Tavistock; or to the Purser, Mr. JOHN E. WATSON, 149, Hope-street, Glasgow.—Dated Tavistock, March 8, 1878.

WEST MARIA AND FORTESCUE CONSOLS.

MESSRS. SKEWIS AND SON are instructed to SELL, AT AUCTION, on Thursday, the 28th March, 1878, at half-past Two o'clock in the afternoon, in One Lot, the valuable

MINING MACHINERY AND MATERIALS
At WEST MARIA AND FORTESCUE CONSOLS MINES, situate about six miles from Tavistock, comprising—
ONE 56 inch PUMPING ENGINE, with TWO BOILERS; ONE 24 inch WINDING ENGINE; ONE 14 inch ENGINE, with capstan and air compressor, and attached for working rock down; 60 fms. 14 in. PITWORK; 24 fms. 8 in. ditto; 10 fms. 11 in. ditto; 10 fms. 12 in. ditto; ONE MCKEAN'S ROCK DRILL, with 160 fms. 3/4 in. and 20 fms. 1 1/4 in. wrought iron pipes; ONE 22 in. Cornish CRUSHER; ONE 12 head STAMPS; ONE BRUNTON'S CALCINER; and a large quantity of other useful mining material.
For further particulars, apply to the Agent on the mine (who will give every facility for inspecting the said plant, &c.); to Mr. MOSES BAWDEN, Church-lane, Tavistock; to the Auctioneers, at Tavistock; or to the Purser, Mr. JOHN E. WATSON, 149, Hope-street, Glasgow.—Dated Tavistock, March 8, 1878.

IN VOLUNTARY LIQUIDATION.
VALUABLE MINES, SITUATED IN LANDER COUNTY, STATE OF NEVADA, U.S.

MESSRS. WALKER, ACKERLEY, AND WHITEMAN WILL OFFER FOR SALE, BY AUCTION, on Tuesday, the 2nd day of April, at One o'clock P.M., at the Law Association Rooms, Cook-street, Liverpool, ALL those VALUABLE MINES, known collectively as
THE BATTLE MOUNTAIN MINES,
Situated in Lander County, State of Nevada, U.S., together with all the MACHINERY, fixed and loose PLANT, now in working order. Also, all the Company's Interest in the Willow Creek, situated about three miles from the mines. The works can be inspected at any time on application to the Manager.
For further particulars apply to CHAMBERS and WADE, No. 5, Fenwick-street, Liverpool, where the titles can be seen.

THE SNOWDRIFT AND D—PETERS SILVER MINES,
With WATER RIGHT and MILL SITE,
Near GEORGE TOWN, COLORADO, each 1400 lineal feet, secured by United States patents, subject to miners' claims and judgments. One mine has been worked, and the existence of ore in the other proved.
MESSRS. EDWIN FOX AND BOUSFIELD WILL SELL, at the Mart, Tokenhouse-yard, E.C., on Wednesday, March 27, at Two, by order of the Liquidators, with the concurrence of the Mortgagees, the ABOVE VALUABLE PROPERTY.
Particulars of J. A. MORGAN, Esq., 47, Finsbury Circus, E.C.; at the Mart; and of Messrs. EDWIN FOX AND BOUSFIELD, 99, Gresham-street, Bank, E.C.

TO CAPITALISTS.
AN EXCELLENT SLATE QUARRY, in NORTH WALES, is OFFERED FOR SALE, which has been PROVED to be of the BEST QUALITY, and its position affords great facilities to work it both economically and remuneratively. There is abundant supply of water and ample room. The vein is about a mile long; average thickness, 60 to 80 yards. Slates may be conveyed either to a main line of railway or a prominent seaport at 2s. per ton. Leasehold 40 years to run. Price £5000.
For further particulars, apply to "E. 16," Brainerd-street, Liverpool.

FOR SALE, a MOUNTAIN of SUPERIOR FIRE-CLAY.—AN EXTENSIVE SETT, and quantity proved to be practically inexhaustible. Open quarry working, and no sinking. The clay is of exceptional quality, readily ground, of high test for siliceous, combined with sufficient alumina as a binding property: makes the finest white Dinas silica brick, also a brick equal to Stourbridge, proved to stand any heat, and will cool again without crumbling; also excellent cement. Situated in North Wales, contiguous to excellent shipping port and railway station. Crown lease, 21 years; royalty, 1-12th.
Owner will SELL the WHOLE or PART, or arrange with a COMPANY for PART CASH and SHARES. Bona fides only treated with.
Apply to "Fire Clay," care of Henry Greenwood, Advertising Agent, Liverpool.

TO CAPITALISTS AND INVESTORS.
FOR SALE, the LEASE of a VALUABLE PROPERTY in the WEST of ENGLAND, containing an INEXHAUSTIBLE DEPOSIT of a species of HARD CLAY, strongly impregnated with iron and manganese, which can be easily manufactured into the best and hardest blue brick, superior to any hitherto made, and for which there is a large demand at a very remunerative price. Underlying this deposit several lodes of first-class manganese are opened up, and dressing-floors and machinery are all complete. Such an opportunity for profitable investment rarely occurs. Thorough investigation solicited.
For further particulars, apply to Mr. GOODWIN, 5, Air-street, Piccadilly.

TO BE LET, ON LEASE, the THREE BLAINA and the THREE NANT-Y-GLO BLAST FURNACES, with BLAST ENGINES, PLANT, and MACHINERY, complete, with or without MAIDEN COAL PROPERTY, most suitable for Iron and Steel making. All to be included in the rent. Apply to the NANT-Y-GLO COMPANY, 4, Norfolk-street, Manchester.

THOMPSON ROAD STEAMERS FOR SALE.
TWO ROAD STEAMERS, manufactured by T. M. TENNENT and Co., Leith, and belonging to their Estate in liquidation, of 8 and 6 horse power respectively, with patent india-rubber tyres, capable of hauling heavy loads, remain FOR DISPOSAL.
One of these may be seen at the Works of Messrs. Umpherson and Co. (Limited), Bowershall, Leith; and the other with Messrs. P. and W. MacLellan, 129, Trogonate, Glasgow.
Must be sold shortly in order to close liquidation. Offers received by JAMES MACANDREW, C.A., 16, York-place, Edinburgh, Liquidator.

TO BE SOLD, ONE 20-H.P. SEMI-PORTABLE ENGINE and **BOILER,** with link motion, by Fowler and Co., Leeds, with PUMPS and INJECTOR, and all necessary FITTINGS, connected by strong gear to winding drum complete; the whole in first-rate condition, and nearly new.
Also, ONE 24 h.p. PORTABLE ENGINE and MULTITUBULAR BOILER, by Hornsby and Son, with all necessary fittings, connected with strong pumping gear, complete, and in good working order.
Also, TWO cast-iron T-BOSS, 3 feet centres, with pedestals and brasses. ONE 16 inch LIFT OF PUMPS, with bucket clack, windbore, &c., complete, 36 tons in all, 84 yards in length. ONE 10 in. LIFT complete, with sliding windbore, &c., 35 yards in length, 7 tons.
Also, a QUANTITY of MISCELLANEOUS COLLIERY and SINKING PLANT and MATERIALS.
Apply to Mr. THOMAS COXON, Snareston Measham, near Atherstone.

WINDING ENGINES, NEW PRINCIPLE, best and most compact in the market. Several pairs ready.

PORTABLE WINDING AND SINKING ENGINES, the cheapest and most convenient and durable.

STEAM CAPSTANS AND HAULING ENGINES. The greatest power in the space of any made.

HORIZONTAL, VERTICAL, AND PORTABLE ENGINES. First-class make and low price.

PUNCHING, SHEARING, DRILLING, AND OTHER MACHINES.
Many of the above secondhand, very cheap.

ALEXANDER SMITH, ENGINEER, THE MIDLAND MACHINERY STORES.—Offices: PRIOR STREET, DUDLEY.

18 H.P. PORTABLE STEAM ENGINE, with link motion, reversing gear, ready for delivery; also gear to wind and pump.

A 9-h.p. VERTICAL STEAM ENGINE, with link motion, reversing gear (winding drum if required).

A 6-ft. PAN MORTAR MILL, VERTICAL ENGINE, and BOILER, with carriage and travelling wheels.
Apply to—
BARROWS AND STEWART, ENGINEERS, BANBURY.

TWENTY-FIVE H.P. PORTABLE ENGINE, FOR SALE, with link motion reversing gear, suitable for Pumping, Winding, &c., almost new, ready for delivery.
J. H. RIDDEL & CO., 40, JAMAICA STREET, GLASGOW.

HENRY WIGGIN AND CO.
(LATE EVANS AND ASKIN),
NICKEL AND COBALT REFINERS,
BIRMINGHAM.

MEXICO, NEW MEXICO, ARIZONA, UTAH, NEVADA, AND CALIFORNIA.

F. M. F. CAZIN,
MINING AND CIVIL ENGINEER,
At BERNALILLO, NEW MEXICO, U.S. OF AMERICA,
Has 24 years' experience in Mining and Smelting, and 10 years' experience in American Business and Law, offers his services at moderate charges for Reporting on Mining and other Property in any of the above-named States or Territories; gives correct, safe, and responsible advice as to securing full titles and possession; and, as to best mode of utilising the property, will assist in settling existing difficulties by compromise, and in disposing of developed mining property when held at real value; offers his assistance for securing undeveloped mining properties at home prices. As to care taken in reporting, reference is made to the Mining Journal Supplement, April 1, 1876, containing report on property of the Maxwell Land Grant and Railway Company; as to technical standing, to the prominent men of the trade—compare Mining Journal of Aug. 30 and Nov. 31, 1873, and New York Engineer and Mining Journal, Feb. 28, 1874.

Now publishing, to be completed in 30 parts, at One Shilling each.
THE STUDENT'S GUIDE TO THE PRINCIPLES OF COAL AND METAL MINING.

Specially written for the use of persons studying for Colliery Managers' Certificates, and Students of the Principles of Mining, in connection with the South Kensington Science and Art Department. Undersurveyors, Surveyors, Overmen, and other Colliery Officials will find it of much service, inasmuch as it contains many details of Mining which occur in their daily routine.
The work will be profusely illustrated, containing over ONE HUNDRED PLATES when complete.
The several heads treated upon are Geology, Mineralogy, Strength of Materials, Prospecting, Boring for Exploration, Sinking and Securing of Shafts, Pumping, Winding, and Hauling, Blasting, Ventilation, Making and Securing Roadways, Systems of Working, Boring against Accumulations of Gas and Water, Dams to Keep Back Water, Surveying, and the Crushing and Dressing of Ores.
The work is designed to embrace the whole subject of Mining in one volume, in such a form as to be clear, explicit, and practical.
No similar work has yet been published.
J. G. CAMPBELL AND CO., SUNDERLAND.
CURTICE AND CO., Catherine-street, Strand, London.

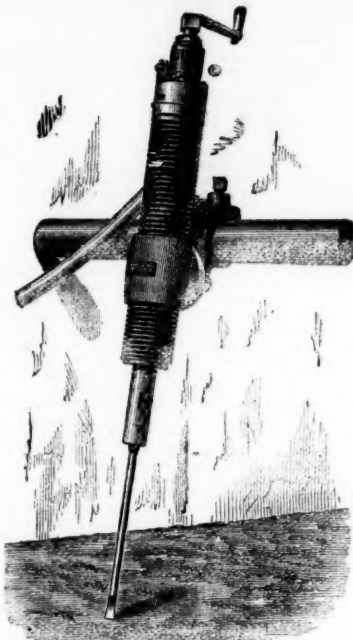
MAPS OF THE MINES, AND OF UTAH TERRITORY.

FROISETH'S NEW AND REVISED MAP FOR 1875.—Size 40 by 56 in. the scale 8 miles to the inch. Handsomely engraved, coloured in counties, showing the Towns, Settlements, Rivers, Lakes, Railroads, Mining Districts, &c., throughout the Territory, and all the Government Surveys to date. Mounted on cloth, £2; half-mounted, £1 12s.; pocket form, £1.
Also, GENERAL MINING MAP OF UTAH, showing twenty-eight of the principal Mining Districts adjacent to Salt Lake City, and location of the most prominent mines. Price, pocket form, 6s.
Also, NEW MAP OF LITTLE AND BIG COTTONWOOD MINING DISTRICTS, showing the location of over Four Hundred Mines and Tunnel Sites, together with the Mines Surveyed for United States Patent. Price, sheets, 6s.; pocket form, 5s.
For sale, and supplied by—
TRUBNER and Co., 57 and 59, Ludgate Hill, London; or
B. A. M. FROISETH, Salt Lake City, Utah, U.S.

"DARLINGTON" ROCK BORER.

NO VALVE.

SCREW, OR CRADLE MOUNTED, BORING MACHINES.

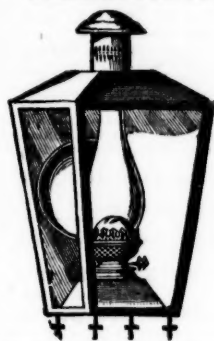


AIR COMPRESSORS, DRIVING AND SINKING APPARATUS.

JOHN DARLINGTON, 2, COLEMAN-STREET-BUILDINGS,
MOORGATE STREET, LONDON, E.C.**PATENT DUPLEX LAMPS,**

FOR COLLIERIES, IRONWORKS, &c.

SUITABLE FOR PIT BANKS, ENGINE HOUSES, &c., &c.



Each Lamp gives a light equal to

26 candles.

No breakage of Chimneys from

heat.

Cottons last three months.

Will burn any mineral oil.

S. HOOPER,

LAMP MAKER & OIL MERCHANT,

LOWER TEMPLE STREET,

BIRMINGHAM.

N.B.—Lamps made suitable for every

purpose.

The BEST SIGNAL BELL MADE for

MINING PURPOSES.

ILLUSTRATIONS ON APPLICATION.

RAILS FOR SALE.

Bridge Section, 10 to 25 lbs. per yard.

Flange Section, 16 to 70 lbs. per yard.

DH Section, 50, 60, to 70 lbs. per yard.

Steel Rails, 30, 36, 54, 58, to 66 lbs. per yard.

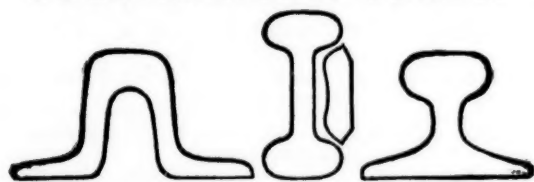
NEW PERFECT, NEW DEFECTIVE, AND SECONDHAND IN STOCK.

PERMANENT WAY RAILS, of all sections, made to order.

For sections and price, apply to—

ROBERT WRIGHTSON

NEWPORT, MON.

JOHN BEATSON, DERBY.**IRON AND STEEL RAILS**, of all sections, from 10 to 82 lbs. per

yard, new, defective, or second-hand.

POINTS AND CROSSINGS, FISH PLATES, BOLTS, NUTS, CHAIRS,

AND SPIKES. LOCOMOTIVE ENGINES AND MACHINERY.

MALLEABLE AND PIG-IRON OF ALL KINDS.

Delivered at all Ports and Railway Stations in Great Britain.

IMPROVED IRON

SMITH'S

NO BRICKWORK

PRICES FROM

£6.15. NETT.

FREE ON G.N.R.

GILDERSOME.

R. HUDSON.

GILDERSOME FOUNDRY,

NEAR LEEDS

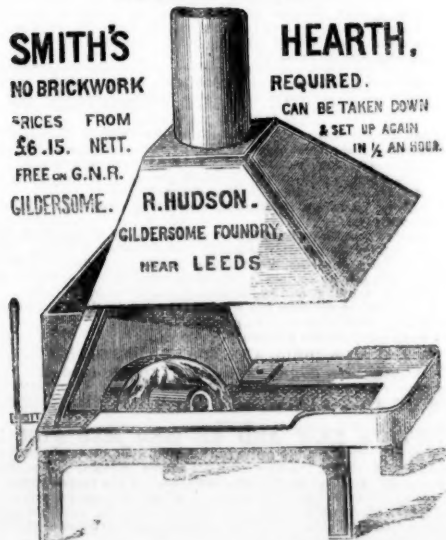
HEARTH.

REQUIRED.

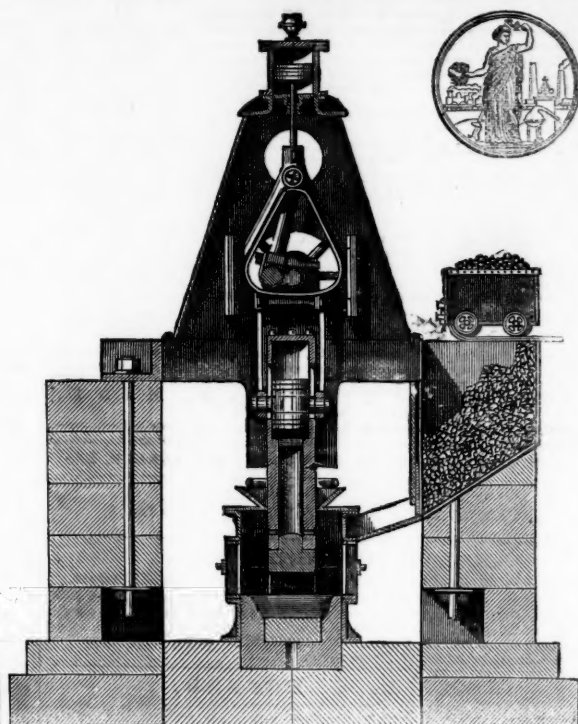
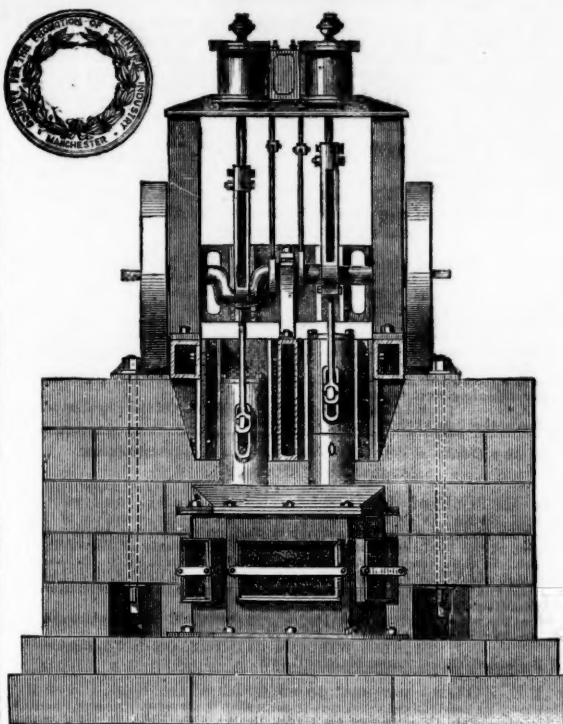
CAN BE TAKEN DOWN

& SET UP AGAIN

IN 1/2 AN HOUR.



GREAT SAVING IN ROOM.

THE NEWCASTLE DAILY CHRONICLE
(Established 1764.)
THE DAILY CHRONICLE AND NORTHERN COUNTIES ADVERTISER
Office, Westgate-road, Newcastle-upon-Tyne; 80, Howard street, North
Shields; 195 High-street, Sunderland.**SHOLL'S PATENT DIRECT-ACTING
PNEUMATIC STAMPERS,**

For Pulverising Tin and Lead Ores, Gold Quartz, &c.,

SOLE MAKERS FOR CORNWALL,

N. HOLMAN AND SONS,

ST. JUST FOUNDRY, NEAR PENZANCE, CORNWALL.

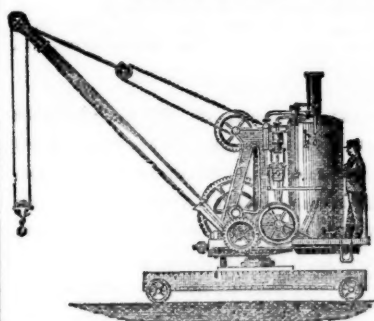
All objectionable features of "wear and tear" common to the original and existing Pneumatic Stamps (driven by belts) are removed in this patent, and leather glands and stuffing boxes entirely dispensed with, the pneumatic piston being reciprocated into the compressing chambers by direct-action from without. These double machines are guaranteed to be of the capacity of 36 ordinary heads of cam and lifter stamps, and engineers will at once see that, inasmuch as the power is directly applied to its work (without the medium of belts and other gearing), the minimum consumption of coal (all other conditions being equal) must be the result.

The COST OF THESE MACHINES (including boiler) is about ONE-THIRD OF THE ORIGINAL CAM AND LIFTER STAMPS, to do the same work.

ROTARY STAMPERS SUPPLIED ON THE SAME PRINCIPLE, WITHOUT STUFFING BOXES OR GLANDS, WHERE RUNNING GEAR EXISTS, OR WITH HORIZONTAL CONDENSING ENGINES AND BELTS TO DRIVE THEM, IF PREFERRED.

Also, **SOLE MAKERS OF STEPHENS' PATENT PULVERISER.**
MINING AND OTHER MACHINERY CONSTANTLY ON SALE,
NEW AND SECOND-HAND.**CHAPLIN'S PATENT STEAM ENGINES AND BOILERS.**

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862

**STEAM CRANES,**

Portable or Fixed, for Railways, Wharves, &c., for

unloading

COAL, BALLAST, &c.,

To hoist 15 cwt. to 30 tons.

LOCOMOTIVES,

6 to 27-horse power. For Steep Inclines and

Sharp Curves.

Gauge from 2 feet upwards.

Geared to draw very heavy weights in proportion

to their power, and SPECIALLY

SUITABLE FOR



Contractors' Work, Railway Sidings, Coal Mines, Quarries, Gas Works, &c.

WIMSHURST, HOLLOCK, & CO., ENGINEERS.

Works: REGENT'S CANAL DOCK, 602, COMMERCIAL ROAD EAST, LONDON, E. (near Stepney Station)

CITY OFFICE: 2, WALBROOK, LONDON, E.C.

Parties are cautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.

**HENRY WATSON AND SON,
HIGH BRIDGE WORKS, NEWCASTLE-ON-TYNE,**

MANUFACTURERS OF EVERY DESCRIPTION OF

MILL AND ENGINEERING FITTINGS,FOR MARINE, STATIONARY, and LOCOMOTIVE ENGINES; COLLIERY PUMP WORKING BARRELS; FIRE ENGINES;
SAFETY LAMPS; GUN METAL AND BRASS CASTINGS of any size; MALLEABLE BRONZE PRICKERS,
and BLASTING APPLIANCES. Also,**Johnston's Patent Self-acting Alarm Whistles.**

EXPLOSIONS FROM STEAM BOILERS have become so frequent, and are often attended with such serious results both to life and property, that any improvement tending to secure their safety cannot fail to be appreciated. From numerous examinations, made after explosions, by practical engineers, the great majority of accidents that occur are considered the result of a deficiency of water in the boilers. Experience has proved that it is good policy to furnish each boiler with this Self-acting Alarm, so constructed that, upon the water getting below a certain level, nothing can prevent the opening for the steam to act directly upon the instrument and cause the alarm.

The hollow cast-iron float is made sufficiently heavy that, on falling with the water, it cannot fail in opening the orifice, as the apparatus is entirely free from all stuffing-boxes, glands, cocks, or any other contrivances which are so frequently found to operate against the proper action of alarms. The float is so constructed that it cannot become water-logged. As long as there is a sufficiency of water in the boiler the alarm valve is kept close against its seat by the float.

A loose pin at the top of the whistle enables anyone to test the alarm at a moment's notice. Practical men consider this the best Alarm hitherto offered.

The Engraving shows the mode of fixing to boiler, also the water level. In ordering, the diameter of the boiler should be given, and also the diameter of the flue when there is one, also the distance from top of flue to top of boiler, or send sketch.

The use of these Alarms in large works, extending over a period of fifteen years, and numbering over 4000, is a guarantee in itself of their efficiency and safety.

NOBEL'S DYNAMITE

Is the MOST ECONOMICAL and POWERFUL EXPLOSIVE for every kind of MINING and QUARRYING OPERATIONS; for blasting in hard or soft, wet or dry ROCKS; for clearing land of TREE ROOTS and BOULDER STONES; for rending massive BLOCKS of METAL; for SUBAQUEOUS and TORPEDO purposes; and for recovering or clearing away of WRECKS, &c.

ITS SAFETY is evidenced by the total ABSENCE OF ACCIDENTS in transit and storage; it is insensible to heavy shocks its GIANT POWER being only fully developed when fired with a powerful percussion detonator, and hence its great safety.

As a SUBSTITUTE FOR GUNPOWDER its advantages are the GREAT SAVING OF LABOUR, rapidity and INCREASE OF WORK done, FEWER and smaller BORE-HOLES required, greater depth blasted, safety in use NO DANGER FROM TAMPING, absence of smoke, unaffected by damp, &c.

For information, apply to the—

NOBEL'S EXPLOSIVES COMPANY (LIMITED), GLASGOW;
OR AT THE

London & Export Office, 85, GRACECHURCH STREET, LONDON E.C.

TONITE, OR COTTON POWDER.

THE SAFEST, STRONGEST, AND CHEAPEST OF ALL EXPLOSIVES.

Recommended to MINERS, PIT SINKERS, QUARRYMEN, and CONTRACTORS as the MOST EFFICIENT and ECONOMICAL BLASTING AGENT ever invented.

Results of practical experience show a saving of from 15 to 20 per cent. over the strongest explosives previously in use.

It saves labour in drilling holes, as a less number of holes are needed.

It does not require thawing, but is ready for use at all temperatures and in all climates.

It can also be advantageously used in breaking up boulders, extracting stumps, removing wrecks, exploding torpedos, and for submarine purposes in general, as well as for signal lights and fog signals for ships.

OFFICES:

23, QUEEN ANNE'S GATE, LONDON, S.W.

WORKS: FAVERSHAM, KENT.

Agents DINEEN, SON, and Co., Leeds; JOHN RUSSELL, Whitehaven; R. J. CUNNACK, Helston, Cornwall; J. and W. SMITH, Chapel-en-le-Frith; W. VEITCH, Jedburgh, N.B.

THE TUCKINGMILL FOUNDRY COMPANY

(TUCKINGMILL FOUNDRY AND ROSEWORTHY HAMMER MILLS),
CAMBORNE, CORNWALL,

Engineers, Iron and Brass Founders, &c.,
MAKERS OF EVERY DESCRIPTION OF

MINING MACHINERY, SHOVELS, GEARWORK,
PUMPING, WINDING, AND STAMPING ENGINES.

ALSO OF

BLAKE'S STONE BREAKERS.

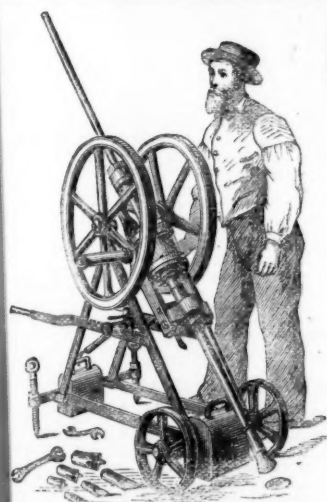
SOLE MAKERS OF

BORLASE'S PATENT ORE-DRESSING MACHINES AND PULVERISERS.

ESTIMATES GIVEN UPON INDENTS AND SPECIFICATIONS.

ILLUSTRATED CATALOGUES POST FREE ON APPLICATION.

LONDON OFFICE: 85, GRACECHURCH STREET, E.C.



PATENT HAND-POWER ROCK DRILL.

IMMENSE SAVING.

STEAM POWER AND SKILLED LABOUR DISPENSED WITH.

PRICE COMPLETE, £50.

FOR SINKING, DRIVING, AND OPEN QUARRY WORK.

"TIMES," November 29th, 1877.

"Enough was done to demonstrate that the machine was well calculated to take its place in mining and quarrying operations, and to successfully supersede for most purposes the slow and tedious process of hand boring."

Testimonial received from Messrs. JOHN TAYLOR and SONS, 6, Queen-street-place, E.C.

"DEAR SIR,—I have much pleasure in letting you know that the hand-power rock drill, which you have supplied to our works at Colerone, near Nantes, seems likely to prove a very useful implement in our granite quarries. Our engineer reports that it bores 1½ hole in granite at the rate of 1 inch per minute, worked by two men. No difficulty is found by them in keeping up continuously that rate, a third man relieving one of the others from time to time.

Yours very truly,

(Signed) RICHARD TAYLOR."

HAND-POWER ROCK DRILL COMPANY (LIMITED).

THOS. B. JORDAN, SON, & MEIHE.

63, QUEEN VICTORIA STREET, LONDON, E.C.

THE "CRANSTON" ROCK DRILL

SUITABLE FOR

QUARRYING, SINKING SHAFTS, SUBMARINE BLASTING, TUNNELLING, DRIVING ADITS,

is the MOST SIMPLE and ECONOMICAL DRILL now in use.

BOILERS; AIR COMPRESSORS, worked by Hydraulic or Steam-power; STEEL for MINING DRILLS; PUMPS, and all other MINING MACHINERY supplied.

Extract from Capt. DRAKE'S Report to the Eberhardt and Aurora Mining Company, London:—"After having visited and carefully inspected the working of the principal patterns of drills used, particularly with reference to the tunnel works in the Comstock Mines, in California, we are pleased to believe there is no better drill than the 'Cranston,' which is doing most excellent service. The tunnel is driving through exceedingly hard limestone intermixed with quartz rock, which is all to blast. Since the arrival of new drills we have been enabled to let a contract for 500 feet, and we now average 50 feet per week."

The tunnel is now driven in over 2000 feet by their drills.

For other particulars and estimates, apply to—

J. G. CRANSTON, 22, GREY STREET,
NEWCASTLE-ON-TYNE

MANCHESTER WIRE WORKS.

NEAR VICTORIA STATION, MANCHESTER

(ESTABLISHED 1790).

JOHN STANIAR AND CO.,

Manufacturers by STEAM POWER of all kinds of Wire Web, EXTRA TREBLE STRONG for

LEAD AND COPPER MINES.

Jigger Bottoms and Cylinder Covers woven ANY WIDTH, in Iron, Steel, Brass, or Copper

EXTRA STRONG PERFORATED ZINC AND COPPER RIDDLES AND SIEVES.

Shipping Orders Executed with the Greatest Dispatch.

"Kainotomon" Rock Drill

SELECTED BY THE

BRITISH, PRUSSIAN, & SAXON
GOVERNMENTS.

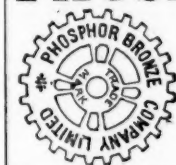
SUPERIOR
Air-Compressors, Coal-
Cutters, Pumps, and all
Mining Machinery.



Secondhand ROCK DRILLS
BRYDON AND DAVIDSON'S
make £25 each new £32

T. A. WARRINGTON,
30, King-street, Cheapside,
LONDON E.C.

THE PHOSPHOR BRONZE COMPANY (LIMITED).



139, CANNON STREET, E.C
LONDON.

Alloy, No. II., for pinions, ornamental castings, steam fittings, &c. £120 per ton.
" No. IV., for pinions, pumps, valves, linings, cylinders, &c. 130 "
" No. VI. (must be cast in chill) for bolts, &c. 140 "
This alloy has very great tensile strength ...
" No. VII., for hydraulic pumps, valves, and plungers, piston rings, bushes and bearings, for steel shafts 140 "
" No. XI., special phosphor-bronze bearing metal, wearing five times as long as gun metal 112 "

The prices of castings vary according to the pattern, the quantity required, and the alloy used.

WIRE ROPES, TUBES OF ALL DESCRIPTIONS, &c.

CRAVEN AND SPEEDING BROS.,

MANUFACTURERS OF EVERY DESCRIPTION OF

WIRE AND HEMP ROPES

FOR

COLLIERIES, RAILWAYS AND SHIPPING, &c.

Charcoal and Steel Wire Ropes (Flat and Round), of best-selected Charcoal and Steel Wire.

Guide Rods.

Galvanised Wire Signal Cord.

Galvanised and Plain Strand for Fencing.

Galvanised Wire Rope for Ships' Rigging.

Chains, Wire Rope Pulleys, Brattice Cloth, &c., &c.

Hemp Crab Ropes, of best selected Petersburg and Italian Hemp

Ditto Flat Ropes ditto ditto

Ditto Cordage ditto ditto

Manilla Rope, White and Tarred.

Flax Spun Yarn and Dressed Flax, for Packing.

Brown and White Spun Yarn.

Fine Dressed Petersburg and Italian Hemp, &c., &c.

Ships Rigging fitted to order. Estimates and special quotations supplied on application to

CRAVEN & SPEEDING BROS.

Wear Hemp and Wire Rope Works,
SUNDERLAND.



By a special method of preparation, this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of—

I. AND T. HEPBURN AND SONS,

TANNERS AND CURRIERS, LEATHER MILLBAND AND HOSE PIPE

MANUFACTURERS,

LONG LANE, SOUTHWARK, LONDON

Prize Medals, 1851, 1855, 1862, for

MILL BANDS, HOSE, AND LEATHER FOR MACHINERY PURPOSES.

MR. W. F. STANLEY, MATHEMATICAL INSTRUMENT MANUFACTURER TO H.M.'S GOVERNMENT, COUNCIL OF INDIA, SCIENCE AND ART DEPARTMENT, ADMIRALTY, &c.

MATHEMATICAL, DRAWING, and SURVEYING INSTRUMENTS of every description, of the highest quality and finish, at the most moderate prices.

Price-list post free.

ENGINE DIVISION TO THE TRADE.

ADDRESS—GREAT TURNSTILE, HOLBORN, LONDON, W.C.

New ready, price 3s., by post 3s. 3d., Sixth Edition; Twentieth Thousand Copies much improved, and enlarged to nearly 300 pages.

HOPTON'S CONVERSATIONS ON MINES, between Father and Son. The additions to the work are near 80 pages of useful information, principally questions and answers, with a view to assist applicants intending to pass an examination as mine managers, together with tables, rules of measurement, and other information on the moving and propelling power of ventilation, a subject which has caused so much controversy.

The following few testimonials, out of hundreds in Mr. Hopton's possession, speak to the value of the work:—

"The book cannot fail to be well received by all connected with collieries."—Mining Journal.

"Its contents are really valuable to the miners of this country."—Miners Conference.

"Such a work, well understood by miners, would do more to prevent colliery accidents than an army of inspectors."—Colliery Guardian.

London: MINING JOURNAL Office, 28, Fleet-street; and to be had of all book sellers.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last wd.
1500	Alderley Edge, c, Cheshire	10 0 0	—	—	12 11 8	0 8 0	Jan. 1876
4000	Brookwood, c, Buckfastleigh	1 16 0	—	—	3 16 0	0 2 0	Nov. 1876
2000	Bryn Alyn, c, Denbigh	10 0 0	—	—	0 7 0	0 0 0	Jan. 1877
1400	Cashwell, c, Cumberland	2 10 0	—	—	1 9 6	0 2 0	Aug. 1876
1900	Carn Brea, c, t, Illogan	36 7 6	45	42 1/2 45	308 0 0	1 0 0	Feb. 1874
2150	Cook's Kitchen, c, t, Illogan	24 4 9	3	2 1/2 3	11 17 0	0 7 6	Jan. 1878
19240	Devon Gt. Consols, c, Tavistock	1 0 0	—	—	116 15 0	0 5 0	July 1877
4296	Dolomath, c, t, Camborne	10 14 10	33	31 33	112 6 3	0 5 0	Mar. 1878
8000	East Black Craig, c, t, Scotland	5 0 0	—	—	0 10 0	0 10 0	Feb. 1877
300	East Darran, c, t, Cardiganshire	32 0 0	—	—	235 10 0	1 0 0	Aug. 1876
6100	East Pool, c, t, Illogan	0 9 9	9	8 1/2 9	15 6 9	0 2 0	Feb. 1878
60 000	Glasgow Carron, c, t, (30,000 21 p. 10,000 15 p.)	1 1/2 1 1/2	1 1/2 1 1/2	1 1/2 1 1/2	0 13 4	0 0 6	Feb. 1878
7500	Gorehead and Merllyn Cons., c, Flint	2 10 0	—	—	0 5 0	0 0 0	Aug. 1877
15000	Great Llyfne, c, t, Montgom.	4 0 0	—	—	0 2 0	0 2 0	Apr. 1876
15000	Great Llyfne, c, t, Isle of Man	4 0 0	—	—	23 8 0	0 10 0	Jan. 1878
615	Gt. Retallack, c, t, Penryn	5 18 6	—	—	0 1 6	0 1 6	Mar. 1876
6400	Green Hurth, c, t, Durham	0 6 0	—	—	1 15 0	0 3 0	Mar. 1878
20000	Groegwion, c, t, Cardigan	2 0 0	—	—	0 14 0	0 2 0	Jan. 1878
9530	Gunnislake (Clitters), c, t, s	6 8 0	—	—	0 13 9	0 1 0	Oct. 1876
6000	Holmbush, c, t, Callington	1 0 0	—	—	0 4 6	0 0 6	Sept. 1877
2000	Ile of Man, c, t, Isle of Man	26 0 0	—	—	82 8 0	0 10 0	Feb. 1876
20000	Leadhills, c, t, Lanarkshire	6 0 0	—	—	0 12 0	0 6 0	Oct. 1877
400	Leiburne, c, t, Cardiganshire	18 15 0	—	—	585 10 0	1 0 0	Feb. 1878
14000	Llanidloes, c, t, Montgomery	3 0 0	—	—	0 9 0	0 4 0	Nov. 1876
8000	Marke Valley, c, t, Linkinhorne	5 3 8	—	—	7 15 0	0 2 0	Jan. 1876
10000	Mellancor Copper, Hayle	2 0 0	—	—	0 2 0	0 2 0	Jan. 1878
9000	Minera Mining Co., c, t, Wrexham	5 0 0	—	—	67 10 8	0 2 6	Feb. 1878
90000	Minning Co. of Ireland, c, t, c, t	7 0 0	—	—	23 7 0	0 2 6	Jan. 1878
444	North Busy, c, Chacewater	3 9 8	—	—	1 10 0	1 0 0	July 1877
10289	North Hendre, c, t, Wales	2 10 0	—	—	1 12 6	0 2 6	Aug. 1877
30000	Panty Mwyn, c, t, Mold (8794 las.)	2 0 0	—	—	0 1 0	0 1 0	Feb. 1878
6000	Pedu an-dren Con., t, Redruth	0 8 6	—	—	0 9 0	0 9 0	June 1877
6000	Penhalls, c, t, St. Agnes	3 2 6	—	—	3 13 8	0 2 0	July 1878
6000	Pennant, c, t, North Wales	5 0 0	—	—	0 5 0	0 5 0	Mar. 1877
45793	Pennant, c, t, Gwynedd	2 0 0	—	—	0 2 8	0 5 0	Nov. 1876
18000	Prince Patrick, c, t, Holywell	1 0 0	—	—	0 14 0	0 1 3	Jan. 1876
10000	Red Rock, c, t, Cardigan	2 0 0	—	—	0 4 0	0 2 0	Jan. 1878
12000	Roman Gravel, c, t, Salop	7 10 0	—	—	7 10 8	0 8 0	Jan. 1877
612	South Cardon, c, t, Cleer	1 5 0	—	—	742 10 0	1 0 0	Mar. 1878
6123	South Cardon, c, t, Camborne	6 8 6	—	—	3 5 0	0 7 0	Jan. 1878
15000	St. Harmon, c, t, Montgom.	3 0 0	—	—	0 6 0	0 3 0	July 1877
1 000 000	St. Patrick, c, t, (8000 sh. issued)	1 0 0	—	—	0 7 0	0 1 0	Oct. 1878
1 4000	Taukerville, c, t, Salop	6 0 0	—	—	4 17 0	0 5 0	Dec. 1876
6000	Tincroft, c, t, Pool, Illogan	6 0 0	—	—	50 8 0	0 5 0	May 1877
15000	Van, c, t, Llanidloes	4 5 0	—	—	22 15 6	0 12 0	Jan. 1878
3000	W. Chiverton, c, t, Penryn	12 10 0	—	—	55 10 0	0 10 0	Feb. 1876
1783	West Fildice, St. Day	10 0 0	—	—	1 19 0	0 10 0	July 1876
512	West Toluca, c, t, Redruth	98 10 0	—	—	25 10 0	1 10 0	Feb. 1878
3048	West Wheel Franks, c, t, Illogan	3 1/2 3 1/2	—	—	3 12 6	0 5 0	Oct. 1878
13000	West Wye Valley, c, t, Montgom.	5 0 0	—	—	3 12 6	0 5 0	Oct. 1878
1024	Wh. Eliza Consols, c, t, Austell	18 0 0	—	—	15 10 0	0 10 0	Oct. 1877
2048	Wheel Jane, c, t, Kea	2 13 10	—	—	8 5 0	0 5 0	July 1878
4296	Wheel Kitty, c, t, St. Agnes	6 4 6	—	—	11 10 0	0 2 6	Dec. 1874
25300	Wh. Newton, c, t, c, t, Calstock	1 0 0	—	—	0 8 6	0 4 0	Sept. 1877
80	Wheel Owles, c, t, St. Just	56 5 0	—	—	523 10 0	4 0 0	Aug. 1872
6000	Wheel Prussia, c, t, Redruth	0 5 0	—	—	0 4 0	0 1 0	July 1877
10000	Wye Valley, c, t, Montgomery	3 0 0	—	—	0 10 6	0 4 0	Oct. 1878

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last wd.
5530	Alamillos, c, t, Spain	2 0 0	—	—	1 18 8	0 1 0	Oct. 1877
30000	Almaden and Tinto Consol., c, t	1 0 0	—	—	0 6 8	0 1 0	May 1876
20000	Australian, c, t, South Australia	7 7 8	—	—	0 19 6	0 1 0	July 1877
10000	Battle Mountain, c, t, (6240 part pd.)	5 0 0	—	—	0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, c, t, California	4 0 0	—	—	0 14 0	0 2 6	Jan. 1874
20000	Cape Copper Mining, c, t, So. Africa	3 1/2 3 1/2	—	—	30 10 0	0 17 6	Mar. 1878
34438	Cedar Creek, c, t, California	5 0 0	—	—	0 10 0	0 2 6	Aug. 1872
28000	Cesena Sul. Consol., c, t, Romagna, Italy	10 0 0	—	—	0 10 0	0 4 0	Nov. 1877
15000	Chicago, c, t, Utah	10 0 0	—	—	2 8 0	0 4 0	Nov. 1878
65000	Colorado United, c, t, Colorado	6 0 0	—	—	0 13 6	0 4 0	Jan. 1878
10000	Copago, c, t, Chili (250 shares)	16 15 6	—	—	7 11 5	0 3 0	May 1877
00000	Don Pedro North of the Rey	0 16 0	—	—	2 8 0	0 2 0	May 1877
25000	Eberhardt & Aurora, c, t, Nevada	10 0 0	—	—	1 8 0	0 3 0	Dec. 1877
10000	English & Australian, c, t, St. Aust.	2 10 0	—	—	2 15 0	0 1 0	Mar. 1877
80000	Flagstaff, c, t, Utah	10 0 0	—	—	4 2 0	0 5 0	July 1877
20000	Fortuna, c, t, Spain	2 0 0	—	—	6 14 0	0 6 0	Oct. 1877
55000	Frontino & Bolivia, c, t, New Gran.	2 0 0	—	—	0 1 0	0 1 0	June 1876
80000	Gold Run, c, t, Idaho	1 0 0	—	—	0 2 4	0 4 0	Oct. 1872
80000	Kapunda Mining Co. Australia	1 3 0	—	—	0 2 4	0 6 0	June 1878
20000	Last Chance, c, t, Utah	5 0 0	—	—	0 14 0	0 2 0	July 1878
15000	Linares, c, t, Spain	3 0 0	—	—	17 3 0	0 6 0	Oct. 1877
60000	London and California, c, t	2 0 0	—	—	0 1 0	0 1 0	July 1878
787	Lusitania, Portugal (25 sh.)	8 10 0	—	—	1 11 6	0 1 6	Mar. 1878
8000	Mamm. Copperopolis of Utah, c, t	10 0 0	—	—	0 5 0	0 6 0	Dec. 1872
8000	Mountain Chief, c, t, Utah	10 0 0	—	—	0 4 0	0 4 0	Jan. 1873
10000	Mountbald, c, t, France	20 0 0	—	—	25 8 0	1 11 0	Nov. 1877
00000	Port Phillip, c, t, Clunes	1 0 0	—	—	1 10 0	0 1 0	Jan. 1878
5000	Richmond Consols, c, t, Nevada	5 0 0	—	—	4 4 0	0 7 6	Feb. 1878
40000	Santa Barbara, c, t, Brazil	0 10 0	—	—	0 3 0	0 13 0	Mar. 1877
120000	Scottish Australian Mining Co.	1 0 0	—	—	15 per cent.	—	Nov. 1877
80000	Scottish Austral. Mining Co., New	0 10 0	—	—	15 per cent.	—	Nov. 1877
112500	Sierra Butte, c, t, California	2 0 0	—	—	1 18 0	0 2 0	Oct. 1877
00000	South Aurora, c, t, Nevada	5 0 0	—	—	0 14 0	0 2 0	Nov. 1878
253000	St. John del Rey (25 stock & multiple dealt in)	3 1/2 3 1/2	—	—	1/2 year, 20 p. et. for Dec. 1876	—	—
20000	Toluca, c, t, So. America	5 0 0	—	—	0 11 6	0 8 6	May 1874
25000	Victoria (London), c, t, Australia	1 0 0	—	—	0 12 0	0 7 1/2	Jan. 1878
15000	Western Andes, c, t, New Granada	5 0 0	—	—	0 12 0	0 12 0	July 1878
91000	W. Prussian (5000 pref. sh. 101. pd)	10 0 0	—	—	1 8 0	0 4 0	Jan. 1878

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Last Cal.
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—	—	—
13000	Argentine, c, t, Argentine Republic	5 0 0	—	—	—
8000	Bellavista, c, Peru (210 shares)	10 0 0	—	—	—
10000	Blue Tent, c, t, California	15 0 0	—	—	—
40000	Chontales, c, t, Nicaragua	2 0 0	—	—	—
16000	Comdes de Chili, c, t	5 0 0	—	—	—
20000	English Australian, c, t, Victoria	1 0 0	—	—	—
25000	Excelsior Hydraulic Gold Washing Co., California	1 0 0	—	—	—
100000	Exchequer, c, t, California	1 0 0	—	—	—
40000	Holcombe Valley, c, t, California	1 0 0	—	—	—
8000	Hornesbos, c, t, Spain	10 0 0	—	—	—
12000	Huitfall, c, t, Orebro, Sweden	5 0 0	—	—	—
13000	Hunter Consolidated, c, t, Utah	10 0 0	—	—	—
20000	Imperial Brazilian Collieries, Brazil	1 0 0	—	—	—
00000	I. X. L., c, t, California	1 0 0	—	—	—
50000	Javali, c, t, Nicaragua	2 0 0	—	—	—
3500	La Mancha, c, t, Newfoundland	10 0 0	—	—	—
12000	Lanestosa, c, t, r, Viscaya, Spain (22 shares)	1 15 0	—	—	—
10000	Malabar, c, t, Colombia (67185 issued)	1 0 0	—	—	—
40000	Malpaso, c, t, Colombia (7400 pref. shares, fully paid)	5 0 0	—	—	—
12000	Menzenberg, c, t, Hannover, Germany	5 0 0	—	—	—
4588	New Bensen, c, t, Germany	5 0 0	—	—	—
61000	New Quebrada, c, t, Venezuela	5 0 0	—	—	—
20000	New Zealand Kapanga, c, t, Oromandel	5 0 0	—	—	—
3000	Oregon, c, t, Oregon, U.S. (preference shares)	5 0 0	—	—	—
80000	Panulicillo, c, t, Chili (28000 debentures)	4 0 0	—	—	—
00000	Pestarena United, c, t, Italy	3 0 0	—	—	—
50000	Providencia and New Rosario, c, t, Mexico	1 0 0	—	—	—
00000	Rica, c, t, Colombia (40000 issued)	1 0 0	—	—	—
22,151,000	Rio Tinto, c, t, Huella, Spain	Stock	—	—	—
100000	Rosa Grande, c, t, Brazil (21 shares)	0 19 0	—	—	—
30000	Russell Copper, Oregon and Utah	10 0 0	—	—	—
25000	San Pedro, c, t, Chili	2 0 0	—	—	—
10000	Silver Plume, c, t, Colorado	1 0 0	—	—	—
30000	Tecoma, c, t, Utah	10 0 0	—	—	—
45174	United Mexican, c, t, Mexico	28 15 3	—	—	—
14000	Utah, c, t, Utah	5 0 0	—	—	—
25000	Virneberg, c, t, Rheinbreitbach, Germany (22 shares)	1 15 0	—	—	—
17000	Yorke Peninsula, c, t, South Australia	1 0 0	—	—	—
40000	Yorke Peninsula, c, t, South Australia Preference	1 0 0	—	—	—

* Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

Closing Prices.					Closing Prices.				
Argentina, 1888, 6 per cent.	71	73	23 1/2	24 1/2	Foreign and Col. Gov. Trust, 5 p. et.	64	69		
Bolivia, 6 per cent.	94	96	60	65	Do., 5 per cent., 2d issue	55	60		
Brazilian, 1885, 5 per cent.	103	105	10	55	Do., 6 per cent., 3d issue	60	65		
Chilian, 1886, 7 per cent.	103	105	60	65	Do., 1872, 4th issue	15	16 1/2		
City of Providence, 5 p. coupon bonds	100	102	12 1/2	13	Do., 1873, 5th issue	97	99		
Egyptian, 5 per cent. pref.	55	55 1/2			Peruvian, 1870, 6 per cent.				
Do., unified debt, scrip	30 1/2	30 1/2			Do., 1872, 5 per cent.				
Do., 7 per cent., V.M.L.	62	65			Russian, 5 p. cent. L. Mort.				
Do., 9 per cent. guar.	65	70			Spanish, Quiksilver Mort., 5 p. et.				
Do., K. Daira Sanieh	40	42			United States Mort. & L. Tr.				